



## Academic Skills

### ACS 024: ACADEMIC STRATEGIES I . . . . . N3 CREDITS

*LEC 3 hrs., LAB 0 hrs.*

This course is especially designed for college students with learning disabilities. Opportunity is provided for self-analysis and application of learning strategies to other courses. Strategies covered include time management/ organization, remembering, listening, note taking, textbook reading and writing.

### ACS 103: LEARNING TECHNIQUES . . . . . 3 CREDITS

*LEC 3 hrs., LAB 0 hrs.*

This course provides opportunity for self-analysis and application of learning styles and strategies to college courses. Emphasis is on practice of techniques designed to improve reading, memory, note taking, and critical thinking skills.

### ACS 111: BECOMING A MASTER STUDENT . . . 1 CREDIT

*LEC 1 hr., LAB 0 hrs.*

This course provides to an extended orientation experience. It aims to assist students in their adjustment by teaching personal, interpersonal and study skills. Students will gain awareness of the resources of the college and the community so that they can actively define and pursue their educational and career goals in a responsible and satisfying manner.

### ACS 125: ACADEMIC STRATEGIES II . . . . . 3 CREDITS

*Prerequisite: ACS 024*

*LEC 3 hrs., LAB 0 hrs.*

This course is especially designed for students with learning disabilities. Opportunity is provided for self-analysis and applications of learning strategies to other courses. Strategies covered include reading skills, memory, test taking and writing techniques.

## Accounting

### ACC 110: ELEMENTS OF ACCOUNTING. . . . 3 CREDITS

*Prerequisite or Corequisite: MAT 014 or MAT 050 or equivalent*

*LEC 3 hrs., LAB 1 hr., Course fee \$20*

*For career option students or transfer students, register by advisement only.*

This is an introductory accounting course that focuses on accounting for small businesses. Emphasis is placed on recordkeeping from basic journalizing to year-end closing and financial statement preparation. Additionally the course will cover payroll and taxation issues related to small business operations.

### ACC 111: PRINCIPLES OF ACCOUNTING I - FINANCIAL ACCOUNTING. . . . . 3 CREDITS

*Prerequisite: ACC 110 or equivalent or MAT 016 or equivalent*

*LEC 3 hrs., LAB 1 hr., Course fee \$20*

Financial Accounting is a service activity that functions to collect and communicate useful financial information about economic entities. The course will be concerned with processing accounting information assets and liabilities, accounting theory for proprietorships, corporations and financial statement analysis.

### ACC 112: PRINCIPLES OF ACCOUNTING II MANAGERIAL ACCOUNTING. . . . . 3 CREDITS

*Prerequisite: ACC 111*

*LEC 3 hrs., LAB 1 hr., Course fee \$20*

A segment of accounting that deals specifically with how accounting data and other financial information can be used in the management of business, governmental, or not-for-profit entities. The course is specifically designed to assist internal management and will deal with cost-volume-profit analysis, cost systems, budgeting and performance evaluation for goal congruence and statement analysis designed for future managers.

**ACC 213: TAX PROCEDURES. . . . .3 CREDITS***Prerequisite: ACC 111**LEC 3 hrs., LAB 0 hrs.*

A study of the Internal Revenue Code and application of accounting principles for preparation of individual income tax returns. Limited business application.

**Art**

*Note: Students may be required to purchase supplies for studio art courses.*

**ART 101: ART START – CREATIVE EXPERIENCE. . . . .3 CREDITS***LEC. 1 hr., LAB 3 hrs., Course fee \$75*

Art Start is designed to introduce the novice, the absolute beginning student to; a basic history of art, and the tools and techniques used to make art, and the simple pleasure and experience of working with a variety of materials to create expressive art objects. No talent or prior experience is required. Instruction will emphasize process over product, and hands on experience as an avenue to understanding art theory and philosophy. Art Start experiences will include collage, assemblage, drawing, watercolor painting, acrylic painting, printmaking, and clay sculpture. This course is aerobics for the brain and soul food for the creative artist hiding within every person.

**ART 114: CONTEMPORARY ART . . . . .3 CREDITS***LEC. 3 hrs., LAB 0 hrs.**Prerequisite: ART 134*

Contemporary Art is launched with a review of 19th and 20th century art and then brings you to the here and now, the art, and the artists of today. In lectures, multimedia presentations, and field experiences, you will be exposed to the pluralism of the new global art world.

**ART 116: AMERICAN ART . . . . .3 CREDITS***LEC. 3 hrs., LAB 0 hrs.*

*This course satisfies the General Education requirement for all majors except Visual Arts and Design*

American Art embarks on a visual journey to the sacred sites and allows you to hold with your eyes the spiritual art objects of the Native Americans. The journey then continues through lectures, slide and video presentations, with the colonization of the Americans, bringing arts, crafts, and architecture, across the Atlantic. The birth of a new nation also delivered a new and uniquely American vision. From the early limners, to the great American portrait painters, Eakins and Sargeant; from the art of slaves to the visual jazz of Jacob Lawrence; from Spanish missions to the political murals of Diego Rivera; from the majestic landscapes of Frederick Church, to the Rock and Roll of Robert Rauschenberg and Andy Warhol; American Art is a wild ride.

**ART 122: DRAWING I – AFA . . . . .3 CREDITS***LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

In Drawing I, the beginning art student learns the methods, materials, and visual information needed to draw what we see. In small steps students will be lead through a series of simple exercises designed to build competence and confidence. The diversity and complexity of the subjects drawn will gradually grow along with student's drawing and visual skills. Students will create a sketch book and a portfolio including still life drawings, land-scape drawings, perspective drawings, and drawings of the human figure. Materials used will include pencil, charcoal, conte crayon, and ink.

**ART 123: DRAWING II – AFA . . . . .3 CREDITS***Prerequisite: ART 122**LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

Drawing II is an intermediate level drawing course designed for students who wish to build upon the skills and knowledge acquired in Drawing I. Students will explore a wide range of tools, mediums, and surfaces. Larger scale drawings, the introduction of color in drawings, and experimentation with subjects and visual space will be encouraged. Drawing II will also include a study of basic anatomy for artists and an introduction to drawing from live nude models, both male and female. By semester's end successful students will have created a sketch book and diverse portfolio of competent and expressive drawings that will complement the portfolio begun in Drawing I.

**ART 124: FIGURE DRAWING – AFA . . . . .3 CREDITS***Prerequisites: ART 122, ART 123**LEC. 2 hrs., LAB 3 hrs., Course fee \$75*

In Figure Drawing, student artists draw from live nude models, both male and female, study in depth anatomy for artists and explore a variety of methods and materials to create expressive drawings of the human figure. By the end of the semester, successful students will have created a wide selection of figure drawings that will support the drawing portfolio begun in Drawing I and continued in Drawing II.

**ART 130: TWO DIMENSIONAL DESIGN–AFA .3 CREDITS***LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

In Two Dimensional Design, you will learn through lectures, multimedia presentations, and simple drawing, painting, and collage projects, how to control and compose visual forces on a two dimensional plane. These visual forces include line, shape, light, texture, scale, and an introduction to color, put to use on two dimensional surfaces such as paper, board, canvas, and walls. Student artists who successfully complete this course will have a solid initial portfolio and the fundamental knowledge and basic skills needed to create better, more effective photographs, drawings, painting prints, illustrations, designs and graphic designs.

**ART 131: COLOR THEORY – AFA. . . . .3 CREDITS***Prerequisites: ART 122, ART 130**LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

In Color Theory, you will learn through lectures, multimedia presentations, and assigned projects, using a variety of art mediums, how color affects the human eye, mind, body, and spirit. Student artists who successfully complete this course will add a strong body of project art, that exhibits a working knowledge of color theory and its application in the visual arts, to the initial portfolio of artwork created in Drawing I and Two Dimensional Design.

### **ART 132: THREE DIMENSIONAL DESIGN – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 130

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

In Three Dimensional Design, you will learn through lectures, multimedia presentations, and assigned projects using a variety of materials, the basic aspects of planning, sketching, and modeling, so as to understand and control the visual and physical forces inherent in the creation of three dimensional objects. These visual and physical forces include, line, plane, volume, mass, and surface; student artists who successfully complete this course will add a body of three dimensional art work to the now substantial portfolio of artwork initiated in Drawing I and II, Two Dimensional Design and Color Theory. Student artists will also possess the fundamental knowledge and basic skills needed to pursue further studies in sculpture, ceramics, design (product, industrial, interior, fashion), and architecture.

### **ART 133: ART HISTORY I. ....3 CREDITS**

*(Formerly ART 111: Western Art History I)*

*LEC. 3 hrs., LAB 0 hrs.*

*This course satisfies the General Education and Diversity/Global Perspective requirements for all majors except Visual Arts and Design*

Art History I is a survey of the major developments in painting, sculpture and architecture from the cave art of prehistory, through the art of Africa, the Near East, South and South East Asia, Korea, China, Japan, Egypt, Greece and Rome, to the Renaissance in Europe. Students will explore, via lectures, multimedia presentations, and a special field experience at a major art museum, the social, technological, and spiritual changes that influenced the evolution of subjects, styles, and ideas, expressed in early art.

### **ART 134: ART HISTORY II .....3 CREDITS**

*(Formerly ART 112: Western Art History II)*

*LEC. 3 hrs., LAB 0 hrs.*

*This course satisfies the General Education and the Diversity/Global Perspective requirements for all majors except Visual Arts and Design*

Art History II explores the significant developments in painting, sculpture and architecture from the High Renaissance to the art of the late twentieth century. Political, religious, scientific, industrial, and technological revolutions are mirrored in the powerful and dramatic changes that take place in the art world. Through lecture, visual presentations, and a field experience, students will discover the styles such as Baroque, Neoclassical, Impressionism, Expressionism, Abstract Expressionism, Pop, and Post Modernism, as well as the later art of China, Korea, Japan and the native arts of the Americas and Oceania. All are part of this dynamic half millennium of artistic endeavor.

### **ART 219: PAINTING I – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 130, ART 131

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

Painting I introduces students to the technical, formal, and creative aspects of painting in either oil or acrylic paint. Student artists will work with diverse subject matter and explore a variety of methods, tools, and materials.

### **ART 220: PAINTING II – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 130, ART 131, ART 219

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

Painting II advances students in the technical, formal, and creative aspects of painting in either oil or acrylic paint. Student artists will work with diverse subject matter and explore a variety of methods, tools, and materials.

### **ART 237: WATERCOLOR PAINTING. ....3 CREDITS**

*Prerequisites:* NONE

*LEC. 1 hr., LAB 3 hrs.*

In this course you will learn through demonstration and experience, how to paint using the beautiful medium of watercolor. You will create still life, landscape (out of doors, weather permitting), figurative, and abstract paintings. Student artists who successfully complete this course will possess a basic painting kit, a portfolio of watercolor paintings, and the fundamental knowledge and basic skills needed to effectively use the medium.

### **ART 223: PRINTMAKING I – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 130

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

Printmaking I introduces students in the historical, technical, formal and creative aspects of printmaking. Student artists work with new nontoxic water-based materials in an exploration of printing methods such as monotypes, relief prints, silk-screens, and photo silk-screens.

### **ART 224: PRINTMAKING II – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 130, ART 131, ART 223

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

Printmaking II is a continuation of Printmaking I with greater emphasis on color, originality, personal style and self expression. Student artists are challenged to create a connected body of prints or an artist's book.

### **ART 228: SCULPTURE I – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 123, ART 130, ART 131, ART 132

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

In Sculpture I you will explore the properties and utilities of three dimensional materials in the creation of expressive sculptural objects. Student artist will model, carve, and construct in a variety of media such as clay, plaster, stone, wood, metal, and paper.

### **ART 229: SCULPTURE II – AFA .....3 CREDITS**

*Prerequisites:* ART 122, ART 123, ART 130, ART 132, ART 228

*LEC. 2 hrs., LAB 3 hrs., Course fee \$50*

Sculpture II will build on the basic skills acquired in prerequisite courses and Sculpture I. Sculpture II is an extension of Sculpture I with a greater emphasis on originality and personal style and self expression. Student artists continue to develop their understanding of the Human Figure, of Form, and of media and techniques by which to represent them.



## ART 230: PORTFOLIO AND PRESENTATION – AFA. . . . . 3 CREDIT

*Prerequisites:* ART 122, ART 130, ART 131, ART 132

*LEC.* 2 hrs., *LAB* 3 hrs., *Course fee* \$75

Portfolio and Presentation has four important objectives: first, to advise the student which of the artworks, designs, and graphic designs they have created in studio courses at CCM represents them most favorably, and what might be done to improve their current work, teach Visual Arts students how to create a powerful portfolio presentation. To create a resume, biography, monograph and press package for the marketing of art and design work; and fourth, to teach Visual Arts students how to document and present their work to four-year colleges and universities, galleries, museums, clients, and prospective employers so that their art may be exhibited and sold and their designs produced and reproduced.

## ART 233: INDEPENDENT STUDY I . . . . . 1-3 CREDITS

*LEC.* 1-3 hrs., *LAB.* 0 hrs., *Course fee* \$50

*Prerequisite:* *Permission of the Visual Arts Department*

A project designed with a faculty advisor. The student is responsible for developing a statement of goals and objectives, maintaining a weekly log and submitting a summary project.

## ART 234: INDEPENDENT STUDY II . . . . . 1-3 CREDITS

*LEC.* 1-3 hrs., *LAB.* 0 hrs., *Course fee* \$50

*Prerequisite:* *Permission of the Visual Arts Department*

A project designed with a faculty advisor. The student is responsible for developing a statement of goals and objectives, maintaining a weekly log and submitting a summary project.

## ART 241: CERAMICS I AFA . . . . . 3 CREDITS

*Prerequisite:* ART 132

*LEC.* 2 hrs., *LAB.* 3 hrs., *Course fee* \$75

The study and practice of ceramics - the preparation of clay, hand building, wheel-throwing, and glazing. Emphasis will be placed on contemporary American techniques.

## ART 242: CERAMICS II AFA . . . . . 3 CREDITS

*Prerequisites:* ART 241

*LEC.* 2 hrs., *LAB* 3 hrs., *Course fee* \$75

The study and practice of ceramics. Emphasis will be placed on producing finished pottery.

## ART 291 & ART 292: SPECIAL TOPICS IN ART .3 CREDITS

*LEC.* 2 hrs., *LAB* 3 hrs., *Course Fee* \$75

Studio work in selected topics or issues in art



## Aviation Flight Technology

*Note:* Computer usage and Internet access may be required in the following courses.

## AVT 101: INTRODUCTION TO AVIATION . . . . . 1 CREDIT

*Prerequisite:* ENG 025 (or equivalent)

*LEC* 1 hr., *LAB* 0 hrs.

An introduction to the career of an Aviation professional. Topics discussed will include the history of commercial aviation and the regulations that govern the industry, the professional ethics and responsibilities of the aviation professional, an overview of career opportunities, typical career paths and basic qualifications.

## AVT 110: FLIGHT OPERATIONS I . . . . . 3 CREDITS

*Prerequisites:* MAT 014 (or equivalent), ENG 025 (or equivalent)

*LEC* 3 hrs., *LAB* 0 hrs.

This course is designed to prepare the student to successfully pass the FAA Private Pilot computer examination. The course is also designed to complement the Flight Training I course (AVT 111). The subject area includes introduction to the airplane, airplane systems, airport, communication and air traffic control, weight and balance, meteorology, federal aviation regulations, aeronautical charts, radio navigation, Airman's Information Manual, flight computer, medical factors of flight and cross-country flying. The FAA Private Pilot knowledge exam is given at computer testing centers throughout the area. The scheduling of the exam and the fee to take the exam are the responsibility of the student.

## AVT 111: FLIGHT TRAINING IA . . . . . 1 CREDIT

*Prerequisite:* Department Permission

*LEC as required; LAB* 3 hrs., *Course fee* \$2,500

This is the first part of the flight training required for the Private Pilot Practical exam, airplane category, class single-engine land. The student will start with basic aircraft maneuvers, progressing through solo flight and the start of the cross-country flight requirements. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student. A student must be at least up to Flight Lesson 12 to fulfill the requirements of the course.

*This course runs for 8 weeks.*

## AVT 112: FLIGHT TRAINING IB . . . . . 1 CREDIT

*Prerequisite:* Department Permission

*LEC as required; LAB* 3 hrs., *Course fee* \$2,500

This is a continuation of Flight Training 1A. The student is expected to continue flight training requirements to meet the Private Pilot Practical exam. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student. A student must successfully pass the Final Stage Check to fulfill the requirements of the course.

*This course runs for 8 weeks.*

## AVT 118: AERODYNAMICS . . . . . 3 CREDITS

*Prerequisite:* MAT 011

*LEC* 2 hrs., *LAB* 3 hrs., *Course fee* \$30

This course is a study of the aerodynamic forces that affect flight. Airframe designs are studied to determine what effects they have on aircraft performance. Other topics include glide performance, aircraft stability, range and endurance, and propulsive efficiency. Laboratory projects are performed to reinforce concepts learned in lecture.

**AVT 121: FLIGHT TRAINING IIA ..... 1 CREDIT***Prerequisite: Department Permission**LEC as required; LAB 3 hrs., Course Fee \$2,500*

This is a continuation of flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student is introduced to commercial maneuvers and instrument flying, solo cross-country flying using pilotage, dead-reckoning and radio navigation. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 8 weeks.***AVT 122: FLIGHT TRAINING IIB ..... 1 CREDIT***Prerequisite: Department Permission**LEC as required; LAB 3 hrs., Course Fee \$2,500*

This is a continuation of the flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student is expected to practice and refine the maneuvers and instrument flying, solo cross-country flying skills, dead reckoning and radio navigation techniques learned in Flight Training IIA. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 8 weeks.***AVT 201: FLIGHT TRAINING IIIA ..... 1 CREDIT***Prerequisite: Department Permission**LEC as required; LAB 3 hrs., Course fee \$2,500*

This is a continuation of flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student will complete the solo cross-country requirements during this phase of training and develop a high degree of proficiency in commercial and primary maneuvers. Instrument flight training will begin in Flight III. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 5 weeks.***AVT 202: FLIGHT TRAINING IIIB ..... 1 CREDIT***Prerequisite: Department Permission**LEC as required; LAB 3 hrs., Course fee \$2,500*

This is a continuation of flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student is expected to continue solo cross-country flights, practice and refine the maneuvers and instrument flying procedures learned in Flight Training IIIA. This course will take place off campus at the airport and will consist of approximately 20 hours of flight training. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 5 weeks.***AVT 203: FLIGHT TRAINING IIIC ..... 1 CREDIT***Prerequisite: Department Permission**LEC as required; LAB 3 hrs., Course fee \$2,500*

This is a continuation of flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student is expected to continue solo cross-country flights, practice and refine the maneuvers and instrument flying procedures learned in Flight Training IIIB. This course will take place off

campus at the airport and will consist of approximately 20 hours of flight training. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 5 weeks.***AVT 205: AIRCRAFT SYSTEMS. .... 3 CREDITS***Prerequisites: MAT 011 (or equivalent), ENG 025 (or equivalent)**LEC 3 hrs., LAB 0 hrs.*

It is the purpose of this course to have the student gain the knowledge of the design, function and operation of aircraft engines, aircraft instruments, and maintenance operations. The student should be able to understand the inspections and the function of maintenance personnel as they relate to aircraft maintenance. The student should also be able to explain the operations of various aircraft components and instruments and be able to describe their operation.

**AVT 208: FLIGHT OPERATIONS:  
INSTRUMENT ..... 3 CREDITS***Prerequisite: AVT 110**LEC 3 hrs., LAB 0 hrs.*

This course is designed to prepare the student to pass the FAA Instrument Pilot Computer Examination. Subject areas include FAR's air traffic system and procedures, Airman's Information Manual, IFR navigation systems, IFR charts and approach procedures, weather, forecasts and IFR flight instruments. Successful completion of this course requires a passing grade on the FAA Commercial Pilot Knowledge exam, which is given at computer testing centers available throughout the area. The fee for the exam is the responsibility of the student.

**AVT 211: FLIGHT TRAINING IVA. .... 1 CREDIT***Prerequisite: Department permission**LEC as required; LAB 3 hrs., Course fee \$2,500*

This is a continuation of flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student will develop a high degree of proficiency in commercial and primary maneuvers, instrument approaches and en-route procedures. In addition, instruction and flights in complex aircraft will take place during this phase. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 8 weeks.***AVT 212: FLIGHT TRAINING IVB. .... 1 CREDIT***Prerequisite: Department Permission**LEC as required; LAB 3 hrs., Course fee \$2,500*

This is a continuation of flight training required to meet the practical test standards for the commercial certificate and instrument rating. The student is expected to demonstrate proficiency as a commercial pilot with an instrument rating. This course will take place off campus at the airport. Scheduling of flight lessons is the responsibility of the student.

*This course runs for 8 weeks.*

## **AVT 215: FLIGHT OPERATIONS: COMMERCIAL .....3 CREDITS**

*Prerequisite:* AVT 110

*LEC 3 hrs., LAB 0 hrs.*

This course is a continuation of the study of commercial pilot flight operation and is designed to prepare the student to successfully pass the FAA Commercial Pilot computer examination. Subject areas covered include advanced topics in aircraft performance, meteorology, aircraft systems, radio navigation, aerodynamics, weight and balance, FARs, physiology of flight, environmental systems and operational procedures. Successful completion of this course requires a passing grade on the FAA Commercial Pilot Knowledge exam, which is given at computer testing centers available throughout the area. The fee for the exam is the responsibility of the student.

## **Biology**

*Note: BIO 127, 132, 133, and CHM 120 are designed for the non-science major. Any combination of two laboratory courses can satisfy curriculum and/or transfer requirements for laboratory science.*

*Beginning in Fall 2008, science majors requiring remediation in algebra must complete MAT 016, Intermediate Algebra, to take courses in biology.*

## **BIO 100: ELEMENTS IN BIOLOGY .....3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$60*

A foundation providing necessary skills and concepts needed to pursue the biology major. Course will stress skill development in areas such as communication, classification, inquiry, mathematical measurement, data analysis, and report writing. Skills will then be applied to the study of the cell cycle and diverse life processes.

## **BIO 101: ANATOMY AND PHYSIOLOGY I ...4 CREDITS**

*Prerequisite:* MAT 016, and ENG 025 or ENG 007

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

The structure and function of the human organism is studied. Special emphasis is given to interrelationships of organs and organ systems. Cellular morphology and function are included for an appreciation of the adult form. The student is introduced to basic chemistry, the cell, basic tissues, the skeletal, muscular and nervous systems. Dissection is required as part of the laboratory syllabus. All remedial courses must be completed prior to taking this course.

## **BIO 102: ANATOMY AND PHYSIOLOGY II...4 CREDITS**

*Prerequisite:* BIO 101 (minimum grade of C)

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

A continuation of Anatomy and Physiology I. The circulatory, respiratory, digestive, urinary, endocrine and reproductive systems are studied. Dissection is required as part of the laboratory syllabus. All remedial courses must be completed prior to taking this course.

## **BIO 118: BIOMEDICAL ETHICS.....3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course introduces students to major ethical issues in areas of biomedicine in contemporary society. The focal point of the course is a process for ethical reasoning and ethical decision making.

Students will identify ethical problems, assess information relevant to decisions, identify "stakeholders" affected by decisions, recognize competing values, consider options, make decisions, and realize the consequences of decisions. The process will be applied to issues in the field such as genetics, death and dying, reproduction, public policy, and medical decision making. This course does not fulfill a laboratory science requirement.

## **BIO 115: HUMAN SEXUALITY .....3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

Provides an introductory knowledge of the basic topics in human sexuality. Topics to be presented are the basic structure and function of the male and female reproductive systems, sexual response and behavior, pregnancy, birth control, sexual disease, atypical behavior, sex and the law and sexuality through the life cycle. Films, slides, panel discussions and guest lectures will be employed to enhance the educational process. The course is open to all students at the college as a free elective and does not fulfill any science requirement.

## **BIO 116: ANIMAL CONTROL OFFICERS' TRAINING COURSE .....3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

Preparation for NJ State Certification as an Animal Control Officer. Topics include: legal authority for animal control (federal, state, local); courtroom procedures; animal behavior, capture, and handling; disease recognition, prevention, and control; shelter operations; and community relations.

## **BIO 121: GENERAL BIOLOGY I. ....4 CREDITS**

*Prerequisite:* MAT 016, and ENG 025 or ENG 007

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

An introduction to the biological sciences through a study of concepts basic to the biology science major. Topics include fundamentals of chemistry, cell structure and function, the nature of biological molecules, bioenergetics, protein synthesis, and photosynthesis. Dissection is required as part of the laboratory syllabus. All remedial courses must be completed prior to taking this course.

## **BIO 122: GENERAL BIOLOGY II .....4 CREDITS**

*Prerequisite:* BIO 121 or BIO 180 (minimum grade of C)

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

A continuation of General Biology I. Topics include homeostasis, animal reproduction, embryonic development, genetics, ecology and evolution. Dissection is required as part of the laboratory syllabus. All remedial courses must be completed prior to taking this course.

## **BIO 123: CELL BIOLOGY.....4 CREDITS**

*Prerequisite:* MAT 016

*and ENG 025 or ENG 007*

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

An introduction to the fundamentals of cellular biology. Topics to be covered are the nature of biologically important molecules, molecular synthesis, energetics, cellular structure and function, cell reproduction, heredity and basic laboratory techniques for cellular study. All remedial courses must be completed prior to taking this course.

**BIO 127: BIOLOGY OF ENVIRONMENTAL CONCERNS . . . 4 CREDITS***Prerequisite: ENG 025 or ENG 007**LEC 3 hrs., LAB 3 hrs., Course fee \$60*

A survey of ecological issues from a variety of perspectives. The course provides an awareness of environmental problems, a knowledge of cause-and-effect relationships of diverse activities on this planet and a basis for making informed judgments about the potential solutions to environmental problems. Major topics include the roots of our environmental problems, introductory concepts in ecology, human population dynamics and control, food resources and world hunger, renewable and nonrenewable energy resources, mineral resources and solid waste, wild plant and animal resources, water resources, air pollution, water pollution, pesticides and pest control, economics, politics and the environment, world views, and ethics and the environment. This course fulfills the general education laboratory science requirement.

**BIO 132: CONCEPTS IN BIOLOGY . . . 4 CREDITS***Prerequisite: ENG 025 or ENG 007**LEC 3 hrs., LAB: 3 hrs., Course fee \$60*

A basic introduction to the study of biological science designed for the non-science major. Topics include the hierarchy of organization, life processes, the cell theory, human genetics, theories of evolution, biochemistry, and some principles of ecology. This course fulfills the general education laboratory science requirement.

**BIO 133: HUMAN BIOLOGY . . . 4 CREDITS***Prerequisite: ENG 025 or ENG 007**LEC 3 hrs., LAB 3 hrs., Course fee \$60*

An introduction to the body systems and the factors which affect human physiology. Lectures include the basic anatomy and physiology of the major systems plus discussion topics emphasizing nutrition, exercise, sexuality, genetic engineering and recent advances in biotechnology. This course fulfills the general education laboratory science requirement.

**BIO 137: CONCEPTS OF MICROBIOLOGY . . . 4 CREDITS***Prerequisite: ENG 025 or ENG 007**LEC 3 hrs. LAB 3 hrs. Course fee \$60*

A basic introduction to the world of microbial life and how microorganisms influence and impact everything from medicine to environmental issues to global politics. Gain an appreciation and understanding of the benefits and risks of sharing this planet with more than a million different types of microorganisms that existed over several billion years before us and understand who is winning the battle of continued survival. Emerging infectious disease topics will be discussed as well as vaccines and antibiotic resistance. This is offered as a hybrid course in which approximately half of the class time is spent outside of the classroom with faculty-guided assignments based on internet-streaming videos and activities followed by weekly meetings in class discussing topics related to the videos and performing related laboratory exercises. This course fulfills the general education laboratory science requirement.

**BIO 180: GENERAL BIOLOGY I-HONORS . . . 4 CREDITS***Prerequisite: Permission of honors coordinator**LEC 3 hrs., Lab 3 hrs., Course fee \$60*

An introduction to the biological sciences through a study of concepts basic to the biology science major. Topics include fundamentals of chemistry, cell structure and function, the nature of biological molecules, bioenergetics, protein synthesis and photosynthesis. Dissection is required as part of the laboratory syllabus. Lecture and laboratory will use an investigatory approach which will emphasize both written and oral communication skills.

**BIO 181: GENERAL BIOLOGY II – HONORS . . 4 CREDITS***Prerequisites: BIO 180 or BIO 121 and permission of honors coordinator**LEC 3 hrs., Lab 3 hrs., Course fee \$60*

A continuation of General Biology I Honors. Topics include homeostasis, animal reproduction and embryonic development, genetics, ecology and evolution. Dissection is required as part of the laboratory syllabus. Lecture and laboratory will use an investigatory approach which will emphasize both written and oral communication skills.

**BIO 201: GENETICS . . . 4 CREDITS***Prerequisites: BIO 121 and 122 or BIO 180 and 181 (minimum grade of C)**LEC 3 hrs., LAB 3 hrs., Course fee \$60*

Provides the student with a broad knowledge of genetics from the molecular to the organismal level. Topics to be covered include the molecular and Mendelian concepts of heredity and their relationship to cell function, development, population changes and evolution, and biotechnology. Laboratory exercises emphasize a variety of techniques and skills used in genetic research and testing.

**BIO 202: ECOLOGY . . . 4 CREDITS***Prerequisites: BIO 121 or BIO 180 or BIO 127 or BIO 131 or LHT 110 (minimum grade of C)**LEC 3 hrs., LAB 3 hrs., Course fee \$60*

This course introduces the basic fundamentals of ecology, the study of the interrelationships between organisms and their environment. Topics will include an introduction to ecosystem structure and function, abiotic factors in ecosystems, energy flow and mineral cycling, population and evolutionary ecology, community ecology, a comprehensive survey of aquatic and terrestrial ecosystems, and human ecology. Laboratories and field trips are designed to introduce the student to techniques used in basic ecological research.

**BIO 215: MICROBIOLOGY . . . 4 CREDITS***Prerequisites: ENG 025 or ENG 007 and BIO 101 or BIO 121 or BIO 123 or BIO 134 or BIO 180 (minimum grade of C) and CHM 117 or CHM 125 and 126 (minimum grade of C)**LEC 3 hrs., LAB 3 hrs., Course fee \$60*

A comprehensive study of microorganisms, including viruses, bacteria, fungi, protozoa, and algae. Topics covered include microbial anatomy, physiology, genetics, ecology and methods of control. Research methods and modern immunological concepts also are discussed. Laboratory exercises in basic microbiological techniques and the study of living microorganisms are designed to supplement the theory presented.



**BIO 219: MAMMALIAN PHYSIOLOGY. . . . .4 CREDITS**

*Prerequisites:* BIO 121 and 122 or BIO 123 or BIO 180 and BIO 181 (minimum grade of C) and CHM 117 or CHM 125 and 126, or CHM 106 and 107 (minimum grade of C)

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

A study of mammalian body function with special emphasis on membrane transport, electrophysiology of nerve and muscle cells, acid-base balance and control of organ systems. Systems emphasized include muscular, nervous, cardiovascular, respiratory, urinary and reproductive. Laboratory experiments are designed to supplement the lecture and introduce the students to instruments and techniques used in research and clinical laboratories. Dissection is required as part of the laboratory syllabus. Open to all science majors.

**BIO 226: COOPERATIVE INDUSTRIAL EXPERIENCE – BIOLOGY . . . . .3 CREDITS**

*Prerequisite:* permission of department chairperson

*On-site work hours 300*

An opportunity for selected students enrolled in the Biotechnology Program to obtain job-oriented laboratory training in an industrial environment prior to career employment.

*Note: Students desiring to participate in this experience should make their interest known to the department chairperson or the cooperative education office by the end of their second semester.*

**BIO 231: HISTOLOGY. . . . .4 CREDITS**

*Prerequisite:* BIO 121 or BIO 123 or BIO 180 (minimum grade of C)

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

A detailed study of the microscopic structure of human tissues, organs, and organ systems. Special emphasis is placed on the relationship of structure to function. Laboratory sessions involve both the preparation of tissue slides incorporating fixation and staining techniques as well as extensive observation of prepared sections. Open to both career and transfer students.

**BIO 233: INDEPENDENT STUDY IN BIOLOGY 3 CREDITS**

*Prerequisite:* permission of the department chairperson

*Course fee \$60*

An opportunity for selected students to participate in biological research under close supervision of the biology faculty. Interested students should make their interest in the course known early in the prior semester to the department chairperson, who will familiarize the students with criteria for selection and the steps to be taken to gain entrance to this course. This course does not fulfill any of the science requirements in biology but is offered as a free elective.

**BIO 260: INTRODUCTION TO MARINE BIOLOGY . . . . .4 CREDITS**

*LEC 3 hrs., LAB 3 hrs., Course fee \$335*

A field- and laboratory-oriented undergraduate course, covering the biology and characteristics of marine animals and plants. The course is designed to provide experience in collecting and identifying examples of local marine organisms.

*Summer – Marine Sciences at Sandy Hook, NJ*

**BIO 262: INTRODUCTION TO MARINE SCIENCES . . . . .4 CREDITS**

*LEC 3 hrs., LAB 3 hrs., Course fee \$335*

A field-oriented, lower-division undergraduate course, covering the principal disciplines in the marine sciences. The course is designed to help the student evaluate his/her interest in the marine science world.

*Summer — Marine Sciences at Sandy Hook, NJ*

**BIO 269: MARINE AND ENVIRONMENTAL CHEMISTRY . . .4 CREDITS**

*LEC 3 hrs., LAB 3 hrs., Course fee \$335*

Lecture, field and laboratory work all focus on analyzing the normal chemical cycles that occur in the marine environment throughout the year and how environmental pollution affects these cycles. Laboratory work will focus on techniques that will then be applied to analyzing the actual conditions present in our local marine waters.

*Summer — Marine Sciences at Sandy Hook, NJ*

**BIO 270: IMMUNOLOGY. . . . .3 CREDITS**

*Prerequisite:* BIO 215 (minimum grade of C)

*LEC 3 hrs., LAB 0 hrs.*

An introductory-level course that covers the basic immunologic concepts of cells and humoral products of the immune system, the genetic control of immunity and generation of diversity, and antigen-antibody reactions. These basic concepts will be correlated to clinical applications as they relate to laboratory testing manifestations of disease, such as autoimmunity, hypersensitivity, transplantation, tumor immunology and immunodeficiency.

**BIO 271: IMMUNOLOGY – LABORATORY . . . .1 CREDIT**

*Prerequisite:* BIO 215 (minimum grade of C)

*Corequisite:* BIO 270

*LEC 0 hrs., LAB 3 hrs., Course Fee \$60*

This course is an introductory level laboratory course that covers the basic immunologic techniques that demonstrate concepts of immune cells and humoral products of the immune system.

**BIO 274: PATHOPHYSIOLOGY. . . . .3 CREDITS**

*Prerequisites:* BIO 101 and BIO 102 and CHM 117

*LEC 3 hrs LAB 0 hrs*

Pathophysiology is a course which studies the physiological alterations associated with common disease processes which affect human beings across the lifespan. Common diseases of the major organ systems will be covered as well as such general issues as infection, neoplasm, inflammation, fluid and electrolyte imbalance, trauma, and shock.

**BIO 295: SPECIAL TOPICS IN BIOLOGY . . . .4 CREDITS**

*Prerequisite:* an introductory course in Biology

*Course fee \$60*

An examination of selected topics or issues in biology. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.



## Business

### **BUS 111: BUSINESS MATHEMATICS. . . . .3 CREDITS**

*For Career Option Students*

*LEC 3 hrs., LAB 0 hrs.*

This course offers a foundation in the essential mathematics of business. Topics include: fractions, percentage, banking records, simple and compound interest, discount, retailing mathematics, inventory, depreciation and payroll. Mathematics of investments, finance and taxes may also be included.

### **BUS 112: INTRODUCTION TO BUSINESS . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course introduces both business and non-business majors to various fields of business study. Topics include foundations of business and economic systems, management and leadership styles, entrepreneurship, motivational theory and techniques, personnel and production management, accounting, information systems, business law, union/management relations and global issues. The course prepares students for higher-level business study and explores a variety of major options and career paths.

### **BUS 119: BUSINESS INFORMATION SYSTEMS AND APPLICATIONS. . .3 CREDITS**

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course provides an introduction to the various technical tools available to help solve problems in the field of business technology. This is a hands-on laboratory course designed to provide the student with experience in using business calculators, Windows Operating System, Microsoft Office, Internet and marketing research tools. Special emphasis will be placed on the accounting and other financial information reports using Microsoft Office's Excel and Word programs.

### **BUS 132: FUNDAMENTALS OF ELECTRONIC COMMERCE. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$35*

This course offers the basic and necessary elements of understanding Electronic Commerce/Business. Students are exposed to the "nuts and bolts" of building successful e-business enterprises. Included are: An understanding of the business and value propositions, e-commerce business models, strategies for successful implementation, an understanding of e-commerce technologies, infrastructure and applications, e-commerce business functionality integration, security risk management, and electronic payments issues. Students in this class are expected to build and present a prototype e-commerce business enterprise as a group project.

### **BUS 135: INTRODUCTION TO INTERNATIONAL BUSINESS . . . . .3 CREDITS**

*LEC 3 hrs. LAB 0 hrs.*

This is essentially a survey course to introduce the field of international business and trade. A broad range of topics prepares students for the rapidly evolving global business world and for advanced study in international business. Topics include introduction to and overview of international business, the global economy, international business environments, issues related to operating and managing an international business, and concepts and theories related to the global marketplace.

### **BUS 136: PERSONAL FINANCE . . . . .3 CREDITS**

*LEC 3 hrs, LAB 0 hrs.*

This course provides a practical introduction to personal finance and money management by focusing on realistic ways to effectively manage and protect personal assets, minimize taxes, and provide for a secure retirement. Students may design a personal budget and learn to make appropriate decisions with regard to savings, investments, insurance, credit protection, and estate planning. Students evaluate the cost of borrowed money, real estate investments, effective use of credit, tax implications, and the effects of the economy has on personal financial decision. The use of financial periodicals may be required.

### **BUS 201: HUMAN RELATIONS IN BUSINESS .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course provides a broad perspective dealing with human relations from the viewpoint of the manager. It treats the human aspect as it is encountered in the business organization. The behavior of individuals in interpersonal, intergroup and interorganizational situations as they relate to work is also studied.

### **BUS 205: LANDSCAPE SPECIFICATIONS AND ESTIMATING . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

Required for students in Landscape Management and Design (3320) Agribusiness (3321), and 3324 Turf & Turfgrass Management and recommended for others with an interest in landscape maintenance or landscape design and installation. The course focuses on developing systems for the identification of costs associated with the preparation of landscape estimates and bids. Topics include pricing, budgeting, understanding and writing specifications; contracts and related issues; insurance and accounting applications for landscape businesses; estimating with an emphasis on cost finding processes; and client and employee relations.

### **BUS 211: MONEY AND BANKING. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course analyzes the organization and operation of our financial system. Included in the study are the money and capital markets, commercial banking, and other financial institutions such as commercial finance companies. The relationship between financial and economic activity, including monetary and fiscal policy, is shown.

### **BUS 212: PRINCIPLES OF FINANCE . . . . .3 CREDITS**

*Prerequisite: ACC 111*

*LEC 3 hrs., LAB 0 hrs.*

This course is a study of principles and practices followed in the financial organization and operation of a business organization; financing new and growing businesses, sources of capital, banking and credit accommodations and the handling of other financial matters.

### **BUS 213: BUSINESS LAW I. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course is a basic study of the fundamentals of legal liability, the growth of our legal system, and the legal rights, duties, and obligations of the individual. Specifically covered are law and society, contracts, agency and employment. Where applicable, the Uniform Commercial Code is used as the basis for statutory interpretation.

**BUS 215: PRINCIPLES OF MANAGEMENT . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course is a study of the basic managerial functions of planning, organizing, staffing, directing, and controlling. Emphasis is placed on the theory of management, organization, and executive leadership. Case studies of actual business situations present problems requiring executive decisions for solution.

**BUS 218: INVESTMENT PRINCIPLES. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course introduces students to basic types of investment alternatives focusing on the mechanics of investing including online investing, researching and interpreting financial information, understanding risk/return tradeoffs, and reviewing investment strategies associated with various stock orders. The course offers a thorough review of the primary and secondary securities markets, securities regulations and ethics, and a general understanding of the impact of the economy and the Federal Reserve on investment decisions. The course objective is to develop students into independently sophisticated investors through a practical hands-on approach. The use of financial periodicals may be required.

**BUS 219: SMALL BUSINESS OPERATIONS . .3 CREDITS**

*Prerequisite: ACC 110 and/or ACC 111, or Permission of the Department Chairperson*

*LEC 3 hrs., LAB 0 hrs.*

This course focuses on all aspects in operating an existing business and in starting a new venture, culminating in the preparation and simulated execution of a business plan. Study includes evaluations of both new and existing businesses, financing approaches, forms of ownership, traditional and Internet marketing and advertising, directing, staffing, purchasing, risk mitigation, cash management, tax obligations, bootstrapping techniques, and financial and breakeven evaluation. This is a hands-on pragmatic approach to small business management.

**BUS 224: COOPERATIVE WORK EXPERIENCE – BUSINESS . . . . .3 CREDITS**

*Prerequisite: Permission of Department Chairperson or Coordinator*  
*Corequisite: BUS 225*

*LEC 3 hrs., LAB 0 hrs.*

This course provides students enrolled in the Business Career curriculum with job-oriented training and practical work experience in a work environment prior to permanent employment. The course may be taken in fulfillment of a business elective in the Business Career curriculum. Students desiring to participate in this experience should make their intention known to the Department Chairperson or the Faculty Coordinator at the beginning of their third semester.

**BUS 225: COOPERATIVE WORK EXPERIENCE – BUSINESS – RELATED CLASS . . . . .1 CREDIT**

*Prerequisite: Permission of Department Chairperson or Coordinator*  
*Corequisite: BUS 224*

*LEC 3 hrs., LAB 0 hrs.*

A supplement to the cooperative work experience program, this course provides a variety of experiences that will further develop students' career development and occupational adjustment. It also

will develop positive points of view toward human relationships and the responsibilities of both the employee and the employer.

**BUS 234: SUPPLY CHAIN MANAGEMENT . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course introduces the concepts of supply chain management. The student will be able to understand how good supply chain management can be a competitive advantage of a firm. Within the strategic framework, facilities, inventory, transportation and information are identified as key drivers of supply chain management.

**BUS 235: INVESTMENT ANALYSIS . . . . .3 CREDITS***Prerequisite: BUS 218**LEC 3 hrs., LAB 0 hrs.*

Builds on the knowledge learned in the Investment Principles course with more in-depth security analysis. The course takes a strategy approach to investing by employing hands-on techniques for profitable decision making within a diversified portfolio. Learning risk/return tradeoffs, reducing risk through portfolio analysis under particular economic conditions, exploring fundamental and technical analysis, and utilizing derivatives by adding futures and options to a portfolio will allow the student to become a more knowledgeable decision maker. Other topics include the time value of money, financial ratio analysis, and the use of real estate alternatives and limited partnerships in portfolio creation. The use of financial periodicals will be required.

**BUS 240: SMALL BUSINESS PLANNING AND FINANCE . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

The course focuses on planning and financing of small business venture. Included will be the development of a business plan. This includes market analysis and a resulting marketing plan, a comprehensive operations plan and the development of financial projections. Attention will also be on the attracting seed and growth capital from such sources as individuals, family, venture capital, investment banking and commercial banks. Bootstrapping or creative ways for obtaining greater impact of available funds is introduced. The end of the business cycle, business valuation and exit strategies are fully explored.

**BUS 242: CUSTOMERS RELATIONS . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course focuses on customer relations as the measure of present and future business success. It begins with describing how business develops its business strategy on identified customer base. Recognizing the challenge of meeting customer expectations, the course defines customer satisfaction and introduces approaches to move from satisfying the customer to delighting the customer. A comprehensive customer relations process, customer relationship management is introduced and its role discussed in the electronic business age.

## Chemistry

Beginning in Fall 2008, science majors requiring remediation in algebra must complete MAT 016, Intermediate Algebra, to take courses in chemistry.

### CHM 100: ELEMENTS IN CHEMISTRY . . . . .3 CREDITS

*Prerequisite:* MAT 016

*LEC 3 hrs., LAB 0 hrs.*

A one-semester, introductory 3-credit, non-laboratory course designed for students with little or no background in chemistry. Emphasis is on preparing students for General Chemistry and Introductory Chemistry courses. The course encompasses chemical principles and calculations with a brief review of algebra.

### CHM 105: FORENSIC SCIENCE. . . . .4 CREDITS

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

An introduction to the applications of the physical and biological sciences in analyzing and evaluating physical evidence as related to crime and the law.

### CHM 106: PRINCIPLES OF CHEMISTRY I – LECTURE. . . . .3 CREDITS

*Prerequisites:* MAT 110

*And ENG 025 or ENG 007*

*Corequisite:* CHM 107

*LEC 3 hrs., LAB 0 hrs., REC 1 hr.*

A study of the fundamental principles of chemistry and application to chemical reactions. Topics include the structure of the atom, concepts of matter, mass relationships for pure substances and chemical reactions, solutions, electronic structure, the chemical bond, nuclear reactions and gases. This course is required for students in Chemical and Environmental Technology and Biotechnology programs. All remedial courses listed must be completed prior to taking this course.

### CHM 107: PRINCIPLES OF CHEMISTRY I – LABORATORY. . . . .1 CREDIT

*Corequisite:* CHM 106

*LEC 0 hrs., LAB 3 hrs., Course fee \$60*

Laboratory experiments to supplement and illustrate principles studied in CHM 106. This course is required for students in Chemical and Environmental Technology and Biotechnology programs.

### CHM 108: PRINCIPLES OF CHEMISTRY II – LECTURE. . . . .3 CREDITS

*Prerequisite:* ENG 025 or ENG 007, CHM 106 (minimum grade C)

*Corequisite:* CHM 109

*LEC 3 hrs., LAB 0 hrs., REC 1 hr.*

A continuation of Principles of Chemistry I with emphasis on chemical equilibrium and energy changes in chemical reactions. Also included are acids, bases, and buffers, chemical thermodynamics, kinetics, qualitative analysis and electrochemistry. This course is required for students in Chemical and Environmental Technology and Biotechnology programs. All remedial courses listed must be completed prior to taking this course.

### CHM 109: PRINCIPLES OF CHEMISTRY II – LABORATORY. . . . .1 CREDIT

*Corequisite:* CHM 108

*LEC 0 hrs., LAB 3 hrs., Course fee \$60*

Laboratory experiments to supplement and illustrate principles studied in CHM 108. This course is required for students in Chemical and Environmental Technology and Biotechnology programs.

### CHM 117: INTRODUCTORY CHEMISTRY. . . .3 CREDITS

*Prerequisites:* MAT 016 And ENG 025 or ENG 007

*Corequisites:* CHM 118 recommended for transfer

*LEC 3 hrs., REC 1 hr.*

An introduction to the basic concepts of inorganic, organic, and biochemistry. The emphasis is on the relationship of these concepts to physiological chemistry and living systems. All remedial courses listed must be completed prior to taking this course.

### CHM 118: INTRODUCTORY CHEMISTRY – LABORATORY. . . . .1 CREDIT

*Prerequisites:* MAT 016 and ENG 025 or ENG 007

*Corequisites:* CHM 117,

*LEC 0 hrs., LAB 3 hrs.*

Laboratory experiments illustrate principles studied in CHM 117. Required for Landscape and Horticultural Technology, liberal arts majors and some Allied Health programs.

### CHM 120: CHEMISTRY OF WORLD CONCERNS. . . . .4 CREDITS

*Prerequisites:* MAT 016 and ENG 025 or ENG 007

*LEC 3 hrs., LAB 3 hrs., Rec. 1 hr.*

A one-semester lecture/lab course for non-science majors. This survey course will emphasize the relevancy of chemistry to the world around us. Topics in measurement, atomic structure and bonding, polymers, and biochemistry will emphasize applications in nutrition, medicine, environmental concerns and technology.

### CHM 125: GENERAL CHEMISTRY I – LECTURE. . . . .3 CREDITS

*Prerequisite:* MAT 110 or satisfactory score on diagnostic test  
*And ENG 025 or ENG 007*

*Corequisite:* CHM 126

*LEC 3 hrs., REC 1 hr.*

A study of the fundamental principles of chemistry and their application to chemical reactions. Topics include the structure of the atom, concepts of matter, mass relationships for pure substances and chemical reactions, solutions, electronic structure, the chemical bond, nuclear reactions and gases. All remedial courses listed must be completed prior to taking this course.

### CHM 126: GENERAL CHEMISTRY I – LABORATORY. . . . .1 CREDIT

*Prerequisite:* MAT 110 or satisfactory score on diagnostic test  
*And ENG 025 or ENG 007*

*Corequisite:* CHM 125

*LEC 0 hrs., LAB 3 hrs., Course fee \$60*

Laboratory experiments illustrate principles studied in CHM 125. All remedial courses listed must be completed prior to taking this course.



**CHM 127: GENERAL CHEMISTRY II –  
LECTURE.....3 CREDITS**

*Prerequisite:* CHM 125 (minimum grade of C), CHM 126,  
And ENG 025 or ENG 007

*Corequisite:* CHM 128

*LEC 3 hrs., LAB 0 hrs., REC 1 hr.*

A continuation of General Chemistry I with emphasis on chemical equilibrium and energy changes in chemical reactions. Also included are acids, bases, buffers, chemical thermodynamics, kinetics, qualitative analysis and electrochemistry. All remedial courses listed must be completed prior to taking this course.

**CHM 128: GENERAL CHEMISTRY II –  
LABORATORY.....1 CREDIT**

*Prerequisite:* CHM 125 and CHM 126 and ENG 025 or ENG 007

*Corequisite:* CHM 127

*LEC 0 hrs., LAB 3 hrs., Course fee \$60*

Laboratory experiments illustrate principles studied in CHM 127. All remedial courses listed must be completed prior to taking this course.

**CHM 136: ENVIRONMENTAL REGULATION . .3 CREDITS**

*Prerequisites:* BIO 123, CHM 125

*LEC 3 hrs., LAB 0 hrs.*

This course is an overview of critical environmental issues encountered by industry from a regulatory perspective. Various federal and New Jersey state regulations pertaining to air, water, hazardous waste and hazardous materials management will be investigated. Students will acquire knowledge on how industry complies with the diversity of regulatory requirements. Students will be exposed to examples of instances where industrial non-compliance with applicable regulations has led to deleterious environmental and occupational health effects. Current issues and their significance to environmental and occupational health will be discussed including, Clean Water Act, Clean Air Act, Environmental Cleanup and Responsibility Act (ECRA), Resource Conservation and Recovery Act (RCRA), Occupational Safety and Health Act (OSHA), Toxic Substance Control Act (TSCA), Asbestos, indoor air quality and underground storage tanks.

**CHM 204: PRINCIPLES OF OCCUPATIONAL  
HEALTH & SAFETY.....3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

A survey course which provides an overview of industrial hygiene and the roles that the industrial hygiene professional plays in recognizing, evaluating, and controlling hazards in the workplace. This course provides an introduction to the qualitative and quantitative issues essential to comprehend occupational safety and health principles. Case studies and hands-on exercises will be utilized to stress key concepts.

**CHM 210: ESSENTIALS OF  
ORGANIC CHEMISTRY.....4 CREDITS**

*Prerequisites:* CHM 117 or CHM 127, 128

*LEC 3 hrs., Lab 3 hrs., Course fee \$60*

This course is the study of the basic principles of structure, reactivity, and nomenclature in organic chemistry. The laboratory develops basic work skills in the types of experiments performed

in a typical organic chemistry laboratory with emphasis on the safe handling of laboratory chemicals and the proper presentation of experimental results.

**CHM 212: BIOCHEMISTRY.....4 CREDITS**

*Prerequisites:* ENG 025 or ENG 007 and CHM 117 or CHM 125

*LEC 3 hrs., LAB 3 hrs., Course fee \$60*

An introduction to physiological chemistry. Lectures will cover amino acids, proteins, lipids, nucleic acids, carbohydrates, molecular genetics, energetics and metabolic pathways. Lab will reinforce concepts covered in lecture. All remedial courses listed must be completed prior to taking this course.

**CHM 219: QUANTITATIVE  
CHEMICAL ANALYSIS .....5 CREDITS**

*Prerequisites:* ENG 025 or ENG 007, CHM 127 (minimum grade of C) or equivalent

*LEC 3 hrs., LAB 6 hrs., Course fee \$60*

Principles of modern quantitative methods in chemistry, including the study of chemical equilibria, solubility, acidity and complex formation. The laboratory work involves practical applications of inorganic and organic analysis including volumetric, gravimetric, chromatographic, and instrumental techniques. Emphasis is placed on the statistical treatment of data and report writing. All remedial courses listed must be completed prior to taking this course.

**CHM 220: INSTRUMENTAL METHODS  
OF ANALYSIS .....5 CREDITS**

*Prerequisites:* ENG 025 or ENG 007, CHM 127 or equivalent (minimum grade of C)

*LEC 3 hrs., LAB 6 hrs., Course fee \$60*

This survey course covers theory and applications of modern instrumentation utilized to solve problems in chemical analysis. Laboratory work involves hands-on experience utilizing instruments such as: gas (GC), liquid (HPLC), and ion chromatography; spectrophotometric methods including visible, ultraviolet, infrared (FTIR), and atomic absorption, ICP, and other methods, including ion selective electrode methods and electrophoretic methods including capillary electrophoresis (HPCE). Emphasis is placed on the comparison of methods, the collection and interpretation of laboratory data, technical report writing and record keeping. All remedial courses listed must be completed prior to taking this course.

**CHM 228: COOPERATIVE  
INDUSTRIAL EXPERIENCE .....3 CREDITS**

*Prerequisites:* Fourth semester status in Chemical Technology, Environmental Science option or Biotechnology programs, permission of department chairperson

This course provides selected students enrolled in the Technology Programs with job-oriented laboratory training and practical work experience in an industrial environment prior to career employment. The course may be taken as a three-credit technical elective. Students desiring to participate in this experience should make their interests known to the department chairperson by the end of their second semester.

**CHM 231: ORGANIC CHEMISTRY I –  
LECTURE.....3 CREDITS**

*Prerequisites:* ENG 025 or ENG 007, CHM 127, 128 (minimum grade C)

*Corequisite:* CHM 232

*LEC 3 hrs., LAB 0 hrs.*

This course is an introduction to the chemistry of carbon compounds. Topics include a study of the fundamental concepts of structure and stereochemistry, physical properties of organic compounds and a functional approach to the interpretation of organic reactions. This course is designed for majors in Biology, Chemistry, Pharmacy, and for students preparing for medical, dental and veterinary schools. All remedial courses listed must be completed prior to taking this course.

**CHM 232: ORGANIC CHEMISTRY I –  
LABORATORY .....1 CREDIT**

*Corequisite:* CHM 231

*LEC 0 hrs., LAB 3 hrs., Course fee \$60*

Laboratory experiments will stress techniques involved in the synthesis and purification of typical organic compounds using both macroscale and microscale techniques. All remedial courses listed must be completed prior to taking this course.

**CHM 233: ORGANIC CHEMISTRY II –  
LECTURE.....3 CREDITS**

*Prerequisites:* CHM 231 (minimum grade C)

*Corequisite:* CHM 234

*LEC 3 hrs., LAB 0 hrs.*

A continuation of the study of organic compounds with further study of functional groups, reaction mechanisms including nucleophilic substitution and elimination reactions, and infrared and nuclear magnetic resonance spectroscopy. All remedial courses listed must be completed prior to taking this course.

**CHM 234: ORGANIC CHEMISTRY II –  
LABORATORY.....1 CREDIT**

*Prerequisites:* CHM 231, 232

*Corequisite:* CHM 233

*LEC 0 hrs., LAB 3 hrs., Course fee \$60*

Laboratory experiments will involve the multi-step synthesis of organic compounds, which illustrate the principles of CHM 233, using macroscale and microscale techniques. All remedial courses listed must be completed prior to taking this course.

**CHM 235: INDEPENDENT STUDY  
IN CHEMISTRY ..... 3 CREDITS**

*Prerequisite:* Permission of the department

*Course fee \$60*

This course is an opportunity for selected students to participate in independent research under close supervision of a chemistry faculty member. Interested students should make their interests known early in the prior semester to the chairperson who will detail the criteria for selection.

**CHM 295: SPECIAL TOPICS IN CHEMISTRY . .4 CREDITS**

*Prerequisite:* An introductory course in Chemistry, Permission of the department

*LEC 3 hrs., LAB 3 hrs.,*

An examination of selected topics or issues in chemistry. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

**CHM 296: SPECIAL TOPICS IN CHEMISTRY . .4 CREDITS**

*Prerequisite:* An introductory course in Chemistry, Permission of the department

*LEC 3 hrs., LAB 0 hrs.,*

An examination of selected topics or issues in chemistry. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## Communications

**COM 101: INTRODUCTION TO  
COMMUNICATION.....3 CREDITS**

*Prerequisite:* Placement Basis or ENG 025

*Lecture 3 hrs., Lab 0 hrs.*

Survey of the field of communication within a variety of contexts including: interpersonal, group, organizational, mass media, intercultural, and international communication. Attention is given to understanding how communication is a fundamental life process in which the individual creates and shapes communicative situations.

**COM 103: INTRODUCTION TO  
PUBLIC RELATIONS.....3 CREDITS**

*Prerequisite:* ENG 111 or permission of coordinator

Lecture 3 hrs., Lab, 0 hrs. This course is a survey of the principles and practices in public relations. Students will gain an understanding of the history, development, and globalization of PR, the impact of PR criticism, the techniques and tactics of PR practitioners. They will learn the concepts of "publics" and professionalism. Special emphasis will be placed on the comprehension of the laws and ethics mandated for the PR industry and the goals and objectives necessary to the future credibility of PR.

**COM 104: INTERPERSONAL  
COMMUNICATIONS .....3 CREDITS**

*Prerequisite:* Placement basis or ENG 025

*Corequisite:* None

*LEC 3 hrs., LAB 0 hrs.*

Students in this course will discover how to communicate effectively in everyday relationships through the study of both theoretical frameworks and practical application. Topics will include: Self-perception, cultural influences, verbal and nonverbal messages, conflict management, as well as an in-depth look at communication within the family unit, friendships, romantic partners, and the workplace.

**COM 111: INTRODUCTION TO JOURNALISM NEWSWRITING. . . .3 CREDITS**

*Corequisite: ENG 111 or permission of coordinator*  
*LEC 3 hrs., LAB 0 hrs.*

Instruction and practice in news gathering and writing news stories. Topics include developing reporting techniques and sources, sharpening writing skills, covering and writing various types of news stories, preparing copy and analyzing problems in press law. Students are trained to write and edit copy on computer.

*A one-time commitment of 3 hours of newspaper production on campus is required.*

**COM 112: ADVANCED JOURNALISM – REPORTING. . . . .3 CREDITS**

*Prerequisite: COM 111 or permission of coordinator*  
*LEC 3 hrs., LAB 0 hrs.*

Instruction and practice in information gathering, basic and specialized reporting, interpretive and investigative reporting, government and statistical writing, press law and ethics. Students are trained to write and copy-edit and typeset on computer.

*A one-time commitment of 6 hours of newspaper production on campus is required.*

**COM 115: INTRODUCTION TO THE MASS MEDIA. . . . .3 CREDITS**

*Prerequisite: Placement Basis or ENG 025*  
*LEC 3 hrs., LAB 0 hrs.*

A survey of the purpose and effects of mass media on modern global society. Emphasis is on print, film, electronic media, international and intercultural media, and media of the future.

**COM 120: BROADCAST JOURNALISM . . . . .3 CREDITS**

*Prerequisite: COM 111*  
*LEC 3 hrs., LAB 0 hrs.*

Instruction and practice in news gathering, writing, editing, and production. Topics include broadcast writing techniques and style; copy preparation; newscast organization, production, and technology; and press law and ethics. Students produce timed newscasts using Palmcorders.

**COM 209: EDITING AND PUBLICATION DESIGN. . . . .3 CREDITS**

*Prerequisite: COM 111 or permission of coordinator*  
*LEC 3 hrs., LAB 0 hrs.*

Instruction and practice in copyediting, news evaluation, headline writing, photo editing, and layout and design. Students learn desktop publishing and help produce the student newspaper.

**COM 228: COOPERATIVE WORK EXPERIENCE COMMUNICATIONS . . . . .3 CREDITS**

*Prerequisites: Level I courses and permission of coordinator*  
*Corequisite: COM 229*  
*LEC 3 hrs., LAB 0 hrs.*

This course provides students in the Communications curriculum with job-oriented training and practical experience in a real work environment. This course is designed to supplement the student's academic coursework and to facilitate the career development and exploration process.

**COM 230: COMMUNICATIONS INTERNSHIP . .3 CREDITS**

*Prerequisites: Second-year status, 3.5 GPA, and permission of coordinator.*  
*LEC 3 hrs., LAB 0 hrs.*

Practical experience working part-time for an approved communications medium under the supervision of a faculty member or successful completion of a significant research project under the guidance of a faculty member.

**COM 234: INTRODUCTION TO FILM. . . . .3 CREDITS**

*Prerequisite: Placement Basis or ENG 025*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

Through the study of representative major works of world cinema, students are introduced to the history and development of film as a creative medium of artistic expression and mass communication. Discussion topics include First Amendment issues, technological breakthroughs, technical elements of film making, film genres, and the influence of business, economics and socio-political contexts. Students are encouraged to approach film analytically and critically, to consciously examine elements beyond actors and plot, and to expand cinematic interest into realms beyond the Hollywood mainstream production.

**COM 291, 292: SPECIAL TOPICS IN COMMUNICATIONS . . . . .3 CREDITS**

*Prerequisite: An introductory course in Communications*  
*LEC 3 hrs., LAB 0 hrs.*

An examination of selected topics or issues in Communications. Topics may differ each time the course is offered. Students should consult the program coordinator for further information.

**Computer Information Systems**

*Knowledge of the computer keyboard and mouse operation are strongly recommended for Information Technologies courses.*

**CMP 101: COMPUTER INFORMATION LITERACY . . . . .1 CREDIT**

*Prerequisite: ENG 025*  
*LEC 1 hr., LAB 1.5 hrs., Course fee \$20*

This general education course provides students with an introduction to basic computer concepts that include learning the fundamentals of Windows, accessing the World Wide Web, and using Microsoft Word.

*Not for Computer Information Systems majors.*

**CMP 104: INTERNET LITERACY . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hr., Course fee \$20*

This general education course provides an in-depth study of the Internet and the knowledge necessary to be a contributing user of the World Wide Web. Topics covered include ISPs, browsers, search engines, netiquette, e-mail, newsgroups, streaming media, file types, societal issues, and trends.

*This course is offered online.*

*Not for Computer Information Systems majors.*





### **CMP 108: GAME DESIGN CONCEPTS. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$40*

This course provides the student with an introduction to fundamental game design concepts. The range of topics includes game worlds and settings, character creation, storytelling, game audio, game art and animation, gameplay, and user interface design. In addition, the history of the game industry, social impact, and the future of gaming will be discussed. Students will analyze various games and genres and create their own game design document.

### **CMP 110: INTRODUCTION TO DATA PROCESSING. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$40*

*No credit earned if CMP 203 or BUS 119 has already been taken.*

Topics in this general education course include computer hardware and software concepts, application and systems software, the Internet and World Wide Web, data communications and the social impact of computers. Problem solving using software application packages will be implemented.

*Not for Computer Information Systems majors.*

### **CMP 113: COMPUTER CONCEPTS AND PROBLEM-SOLVING TECHNIQUES .3 CREDITS**

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course emphasizes basic computer concepts and development of program design techniques. Topics include hardware and software concepts, file management, Internet and LAN technology, information systems analysis and design, and problem-solving methods. A high-level, object-oriented language is used to implement program solutions. Students are required to complete a series of laboratory assignments. CMP 113 is approved as a general education elective.

### **CMP 120: FOUNDATIONS OF INFORMATION SECURITY . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$20*

This course provides a principled introduction to the field of information security. History, characteristics, and models of information and computer security will be explored. Topics such as risk management, logical and physical security, continuity, cryptography, and architecture will be discussed. The CISSP knowledge domains are incorporated into the course content affording the student reinforcement and mastery of information security terminology and concepts.

### **CMP 123: SYSTEMS ANALYSIS AND DESIGN. 3 CREDITS**

*Prerequisite: CMP 113 and CMP 150, 208, 220, 237, or 239*

*LEC 3 hrs., LAB 0 hrs., Course fee: \$40*

Techniques of object-oriented and structured systems analysis and design are examined in the context of the software development life cycle. Topics include project management, Unified Modeling Language (UML) diagrams, data flow diagrams, system flow charts, application and user-interface design. Class projects provide students with practice in using tools in the analysis and design of business systems.

### **CMP 124: NETWORK SECURITY . . . . .3 CREDITS**

*LEC 3 hrs., Lab 0 hrs., Course fee: \$40*

This course provides an in-depth study of network attack techniques and methods to defend against them. Areas of study include communication security, infrastructure security, cryptography, and operational and organizational security as it relates to network hardware, software, and data. Topics include authentication, attacks, virtual private networks, e-mail protection, web security, wireless, firewalls, intrusion detection, cryptography, disaster recovery, and computer forensics regarding networked systems. Using a hands-on approach, powerful tools to diagnose and correct security breaches will be investigated and manipulated. This course is mapped to a vendor-neutral certification exam.

### **CMP 125: INFORMATION SECURITY MANAGEMENT. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$40*

This course entails identifying an organization's information assets and the development, documentation, and implementation of policies, standards, procedures, and guidelines that ensure confidentiality, integrity, and availability of those assets. This course prepares students to understand the planning, organization, and roles of individuals involved in security; to develop security policies; and to utilize management tools to identify threats, classify assets, and rate vulnerabilities. A detailed, real-world security plan will be developed using customized strategies with an in-depth study of PKI (Public Key Infrastructure).

### **CMP 126: COMPUTER CONCEPTS AND APPLICATIONS. . . . .4 CREDITS**

*Prerequisite: ENG 025*

*LEC 3 hrs., LAB 2 hrs., Course Fee \$50*

This General Education course teaches: (1) basic computer-use concepts such as hardware and peripherals, file organization and management, and operating system use; (2) Internet use, browsers, and search engines; (3) software applications including word processing, spreadsheet, electronic slideshow presentations, database use, and calendaring; (4) netiquette, ethics and copyright policies; (5) downloading and installing software and plug-ins; (6) communications technologies including e-mail, blogs, and Web 2.0; (7) personal computer and information security; and (8) career exploration, job search strategies, and portfolio development. Students are required to complete a series of laboratory assignments that illustrate skills and use technologies in the areas listed including a cross-applications/technologies project.

**CMP 150: GAME PROGRAMMING .....3 CREDITS***Prerequisite: CMP 113**LEC 2 hrs., LAB 2 hrs., Course fee \$40*

This course covers advanced game programming techniques using an industry-standard scripting language. Students will also learn how to use a popular game engine to build game programs. Topics include surfaces, sprites, geometric modeling, transformations, rotations, color, blending and lighting, bitmaps, images, texture mapping, input, and sound. Laboratory work will reinforce techniques with individual and team programming projects.

**CMP 200: COMPUTER OPERATING SYSTEMS AND UTILITIES. ....3 CREDITS***LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is an introductory course in personal computer operating systems. Topics include the features and characteristics of operating system software; installation and configuration including customization, file organization and management; memory and storage management; control of peripheral devices; troubleshooting; networking wizard; and the use of utilities to monitor system performance, backup data, and optimize disks. The course focuses primarily on Windows, but also includes MS-DOS and Linux. Laboratory assignments provide hands-on opportunities for students to apply the information related in lectures.

**CMP 203: COMPUTER SOFTWARE APPLICATIONS (MS OFFICE). ....3 CREDITS***LEC 3 hrs., LAB 1 hr., Course fee \$40**No credit earned if CMP 110 or BUS 119 has already been taken.*

This general education course is designed to provide familiarity with contemporary software for word processing, electronic spreadsheets, and database applications in a personal computer environment. An introduction to web browser software, electronic slide production, and information management is also included. Students are required to complete a series of laboratory assignments that illustrate skill in using the above software applications including a cross-application project. Students must allocate time to complete assignments using current versions of the software (available on campus).

*Computer Information Systems majors must have advisor approval to take this course.***CMP 205: DATABASE PROGRAMMING (MS ACCESS). ....3 CREDITS***It is recommended that students take CMP207 Electronic Spreadsheets before taking CMP205.**LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course is designed to develop skill in the use of a leading DBMS (database management system). Topics include the design and maintenance of relational databases and their objects (tables, queries, forms, and reports). Also covered is the use of macros to implement procedures. The final portion of the course covers automation techniques by introducing the VBA (Visual Basic for Applications) programming language and the use of this code to create a "user-friendly" interface.

**CMP 207: ELECTRONIC SPREADSHEETS (MS EXCEL) .....3 CREDITS***It is recommended that students take CMP207 Electronic Spreadsheets before taking CMP 205.**LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is a course in problem solving using a popular spreadsheet program. Emphasis is on construction of elementary to moderately complex worksheets; charting worksheet data, database definitions and reporting; and using command language in macros.

**CMP 208: C PROGRAMMING LANGUAGE (C#). 3 CREDITS***Prerequisite: CMP 113 or equivalent**LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is a second-level programming course for students with previous programming experience. Topics include rules and syntax of C#, input/output, data types, selection, repetition, methods, arrays, error handling, objects, and inheritance.

**CMP 209: INTRODUCTION TO UNIX. ....3 CREDITS***Prerequisite: CMP113 or equivalent**LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course combines lecture with hands-on training in the UNIX operating system. Upon successful completion of this course, the student will be proficient in using the UNIX operating system commands and utilities. Topics include: purpose and functions of an operating system, hierarchical file system, the shell, vi editor, file security, process management, sorting, networking theory and communications, redirection, piping, and an introduction to shell scripts.

**CMP 210: ADVANCED C PROGRAMMING (C#). 3 CREDITS***Prerequisite: CMP 208**LEC 3 hrs. LAB 1 hr., Course fee \$40*

This is an advanced-level programming course for students with at least one semester of C#. Topics covered may include Window applications, event handling, components and containers, interfaces, overloading, objects, arrays, lists, inheritance, polymorphism, recursion, collections, stacks, queues, and algorithm analysis.

**CMP 217: COOPERATIVE WORK EXPERIENCE INFORMATION TECHNOLOGIES . . .3 CREDITS***Prerequisite: Department Permission Required**Corequisite: CMP 218**LEC 3 hrs., LAB 0 hrs.*

This course provides students in the Department of Information Technologies programs with job training and practical experience in a work environment prior to permanent career employment. This course may be taken in fulfillment of the Computer Information Systems elective. Interested students should consult with the Department of Information Technologies Chairperson.

*Computer Information Systems majors only.*

**CMP 218: COOPERATIVE WORK EXPERIENCE  
INFORMATION TECHNOLOGIES  
RELATED CLASS ..... 1 CREDIT**

*Prerequisite: Department Permission Required*

*Corequisite: CMP 217*

*LEC 1 hr., LAB 0 hrs.*

A supplement to the Department of Information Technologies Cooperative Work Experience, this course provides a variety of exercises that further develop the student's technical and communication skills, occupational adjustment, and career planning.

*This course is offered online.*

*Computer Information Systems majors only.*

**CMP 220: OBJECT-ORIENTED  
TECHNOLOGY (JAVA) ..... 3 CREDITS**

*Prerequisite: CMP 113 or equivalent*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

From this course, the student will gain experience in program creation based upon object-oriented paradigms. Fundamental programming topics such as variables, assignment, I/O, conditional statements, looping, and functions will be addressed. More advanced topics include arrays, pointers, classes, inheritance, and polymorphism. Forms, menus, and event handling will also be covered. Laboratory assignments will allow students to practice these concepts by writing programs.

**CMP 230: COMPUTER ASSEMBLY  
LANGUAGE ..... 3 CREDITS**

*Prerequisite: CMP 113 and CMP 200*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

Principles of assembly language programming for a contemporary personal computer chip are explored. Topics include personal computer architecture, a debugging utility, machine code, pseudo-code operations and data definitions, assembly instructions, macros, subroutines, bit operations, and array processing. Problems and computer exercises implementing the above topics are assigned.

**CMP 233: DATA STRUCTURES  
AND ALGORITHMS ..... 3 CREDITS**

*Prerequisites: CMP 208 or CMP 220, and MAT 123*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

The course includes advanced programming topics dealing with logical structures of data and the design and analysis of computer algorithms operating on these structures. The course concentrates on data structures such as primitive data types, linked lists, trees, queues, and stacks. Algorithms covered include memory management, sorting, and searching; both iterative and recursive algorithms are explored with analysis of their efficiency. Problems and computer exercises implementing the above structures and techniques are assigned.

**CMP 235: ADVANCED UNIX ..... 3 CREDITS**

*Prerequisites: CMP 209*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is a continuation course in UNIX programming with emphasis on building upon the previously developed skills. Topics include an in-depth coverage of shell scripts, system administration, GUIs, differences and similarities between shells, higher-level program-

ming languages in the UNIX environment, the Internet, sorting, and other advanced topics.

**CMP 237: VISUAL BASIC (VB.NET) ..... 3 CREDITS**

*Prerequisites: CMP 113 or equivalent*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is a fundamental course in object-oriented programming in a Windows environment. Topics include form design, managing controls, handling variables and constants, using decision and loop structures to construct efficient code, handling built-in functions, and simple debugging techniques for detecting errors.

**CMP 238: ADVANCED  
VISUAL BASIC (VB.NET) ..... 3 CREDITS**

*Prerequisite: CMP 237*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is a continuation of Visual Basic with emphasis on advanced programming techniques. Topics include input validation, database access methods, Active X Data Objects (ADO.NET), processing multiple forms, Structured Query Language (SQL), complex decision and loop structures, file and data management, and error trapping and handling. Creating and using classes and objects is also considered.

**CMP 239: THE INTERNET AND  
WEB PAGE DESIGN ..... 3 CREDITS**

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course is an in-depth study of the Internet and its various services that allows students to gain an understanding of the necessity of the Internet in today's society. Students will create their own World Wide Web home page using strict Hypertext Markup Language. XHTML and other current specifications will also be included and discussed.

**CMP 240: ADVANCED OBJECT-ORIENTED  
TECHNOLOGY (JAVA) ..... 3 CREDITS**

*Prerequisite: CMP 220*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This is a continuation course in an object-oriented programming language that explores in depth the hallmarks of object-oriented language: polymorphism, inheritance, and encapsulation. The course includes a review of arrays, pointers, and classes including overloading of operators. Template functions, template classes, and standard container classes with iterators are presented. Other topics included in this course are string processing, file processing, recursion, run-time allocation of storage, virtual functions and abstract classes, exception handling, sorting algorithms, and algorithm analysis. Concepts are reinforced through the use of hands-on laboratory exercises and projects.

**CMP 241: DATABASE PROGRAMMING  
(ORACLE) ..... 3 CREDITS**

*Prerequisite: CMP 113 or equivalent*

*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course will use the rules and syntax of an "industrial-strength" database programming language that can be used on all types of computers. Topics include relational database aspects, data input and validation, creation and maintenance of files, query, user control center, and application generator. Emphasis is on development of programs related to business database applications.



**CMP 244: WEB DESIGN II . . . . .3 CREDITS***Prerequisite* CMP 239*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course is a continuation of The Internet and Web Design with an emphasis on more advanced concepts and techniques. Topics include Cascading Style Sheets, forms, CGI, the DOM, JavaScript, and other DHTML methodologies. For their final project, students will build a website using these techniques.

**CMP 245: WEB DESIGN TOOLS . . . . .3 CREDITS***Prerequisite* CMP 239 or MED 110*LEC 2 hrs., LAB 3 hrs., Course fee \$40*

Students will learn the leading web design and development tools including the Adobe Creative Suite. Instruction and practice in the Suite provides seamless integration and a unified user interface across all tools to streamline multimedia and web development. Through hands-on practice, activities, and relevant project application, students will demonstrate competence in the use of industry-leading development tools.

**CMP 247: ACTIVE SERVER PAGES (ASP.NET) .3 CREDITS***Prerequisite* CMP 237, CMP 239*LEC 3 hrs., LAB 1 hr., Course fee \$40*

This course is designed to provide students with theory and application in web database application development using Microsoft's Active Server Pages technology. Course topics include an introduction to programming concepts combining ASP.NET, Visual Basic and HTML, ASP.NET Objects, classes, Instance objects, VB control structures and functions, session and application variables, web database connections and access, and SQL queries.

**CMP 250: GAME PRODUCTION . . . . .3 CREDITS***Prerequisite:* CMP 150 or MED 220*LEC 2 hrs., LAB 2 hrs., Course fee \$40*

Working in teams, students will combine their game design and programming skills to explore the practical challenges of managing the development of games. Industry-standard software and advanced programming will be used in this capstone course to develop a functioning game of the highest professional quality. Emphasis will be placed on the game design document, storyboarding, the game production process, user interface and game design, interactive storytelling, character development, 3D animation, special effects, audio, the collaborative process, and usability testing.

**CMP 290: INDEPENDENT STUDY IN INFORMATION TECHNOLOGIES. . .3 CREDITS***Prerequisite:* Information Technologies Department Chairperson approval*LEC 3 hrs., LAB 0 hrs., Course fee \$20*

A student, in consultation with the Information Technologies Department Chairperson, undertakes an in-depth analysis of a selected topic, problem, or issue related to computers or pursues additional computer-related work experience. The student is responsible for developing a statement of goals and strategies, maintaining a weekly log, and preparing a written and oral summary report.

*Computer Information Systems majors only.***CMP 291: SPECIAL TOPICS IN INFORMATION TECHNOLOGIES. . .3 CREDITS***Prerequisite:* Dependent on topic of study*LEC 3 hrs., LAB 1 hr., College fee \$40*

An examination of selected topics or issues in Computer Information Systems. Topics may differ each time the course is offered. Students should consult the Department of Information Technologies Chairperson for additional information.

*Computer Information Systems majors only.***CMP 293: SPECIAL TOPICS II IN INFORMATION TECHNOLOGIES. .1 CREDIT***Prerequisite:* Dependent on topic of study*LEC 1 hr. LAB 0, College fee \$20*

An examination of selected topics or issues in Computer Information Systems. Topics may differ each time the course is offered. Students should consult the Department of Information Technologies Chairperson for additional information.

*Computer Information Systems majors only.***Criminal Justice****CJS 115: INTRODUCTION TO SECURITY. . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

The historical, philosophical and legal basis of security. The role of security and the security individual in modern society; the concept of professionalism; the survey of the administrative, personnel and physical aspects of the security field.

**CJS 116: INTRODUCTION TO CRIMINOLOGY 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

The study of crime, crime statistics, theories of crime causation, crime typologies, the impact of crime, limits of criminal law, and society's reactions to criminal behavior.

**CJS 120: JURISPRUDENCE: THE PHILOSOPHY OF LAW . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

Explores the principles upon which law is based. It seeks to define, categorize and relate those principles to each other. The course seeks to ascertain not what the law is, but rather why it is, and learn its capacities and limits.

**CJS 121: CRIMINAL JUSTICE SYSTEM . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A study of the overall system of criminal justice from its early historical development to its evolution within the United States. Identification of various sub-systems and components – law enforcement, courts and corrections; their role expectations and interrelationships; basic premises of crime, punishment and rehabilitation.

**CJS 122: CLASSICS OF CRIMINOLOGY . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

The goal of this course is to gain an intellectual understanding of criminology by reviewing its progress in the past 20 years. It will present the causes of crime and the effect of crime on society, victims, and criminals. A review of the literature will be accomplished by investigating sociological, psychological, and biological theories of crime.

**CJS 131: INTRODUCTION TO CORRECTIONS. 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

An introduction and overview of fundamental process, trends and practices of probation, institutional treatment, parole, and contemporary community-based correctional programs. Included is a review of the history and philosophy of corrections, with emphasis on the constitutional rights of offenders.

**CJS 214: JUVENILE DELINQUENCY AND CRIME PREVENTION. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A review of the historical reasons for the establishment of Juvenile Courts in the United States, an examination of the juvenile justice process, and an introduction to the functions of the various components of the system. Sociological concepts and theory of the adolescent subculture will be explored. Delinquency prevention aspects, as well as treatment methodologies, will be included.

**CJS 215: INVESTIGATIVE FUNCTION . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

Fundamentals of reconstructing a chronological sequence of events as to if, when, and how a crime was committed. This includes searching, collecting, preserving, evaluating, and cross-comparing physical and oral evidence within the framework of accepted procedural and constitutional laws. Procedures using proven scientific methods and analysis to meet the ideal standards of an investigation to resolve the issue, identify the offenders and to professionally present the findings in court are included.

**CJS 222: CONCEPTS OF CRIMINAL LAW . . . 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

Historical development and philosophy of law including definitions, classifications, and Constitutional origins. Also covered will be case law, methodology and the concept of law as a social force.

**CJS 223: CRIMINAL EVIDENCE AND PROCEDURE . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A study of the rules of evidence with emphasis upon the nature of evidence, burden of proof, confessions, admissions and witnesses. Included are a consideration of judicial procedures and the application of legal concepts to the justice process.

**CJS 224: INTRODUCTION TO POLICE OPERATIONS . . . . .3 CREDITS***Prerequisite: CJS 121**LEC 3 hrs., LAB 0 hrs.*

This course will provide the student with an opportunity to observe and interact with the fundamentals of police operations. The student will be provided with a basis for resolving everyday operational dilemmas from a proactive and reactive perspective. The course will emphasize the need for officers to think critically and to be creative as they interact with citizens in their communities.

**CJS 291, 292: SPECIAL TOPICS IN CRIMINAL JUSTICE . . . . .3 CREDITS***Prerequisite: An introductory course in Criminal Justice*

An examination of selected topics or issues in Criminal Justice. Topics differ each time the course is offered. Students should consult the department chairperson for further information.

**Dance**

*Note: One-credit and two-credit first-level Dance courses may be used to satisfy the Health and Wellness requirement in curricula where HED 128 Lifetime Wellness and HED 286 Personal Health & Wellness are not required.*

**DAN 111: INTRODUCTION TO DANCE . . . . .1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is for the beginner or non-dancer introducing dance as an art form. Fundamentals of stretching and strengthening, plus basic techniques of ballet, modern and jazz are covered. Objective is a general knowledge of movement with information on dance history and vocabulary. Injury prevention is stressed. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 112: DANCE APPRECIATION . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

This course is designed for any student wishing to gain knowledge of the contemporary dance world and its relation to the other arts. Personalities, companies, productions, etc. will be explored in the mediums of ballet, modern, and musical theatre. Present and future trends in the dance world will be emphasized through lectures, videos, and live concerts. This is a non-movement lecture course; written assignments and exams will be given, and attendance at concerts is required.

**DAN 117: INTRODUCTION TO BALLET . . . . .1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is for the non-dancer and will stress ballet techniques using barre work, body alignment, and stretching and strength development. Formal positions, directions, and terminology are taught and reviewed. Ballet companies are discussed and injury prevention is stressed. Dance videos will be viewed and analyzed. Written and practical assignments are given. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 125: JAZZ I . . . . . 1 CREDIT**

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is designed for the student who wants a basic dance class that uses rhythms, isolations, stretching, strengthening, and movements to music. Jazz walks, runs, turns and combinations are given to jazz/rock music. Injury prevention is stressed. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 126: JAZZ II. . . . . 1 CREDIT**

*Prerequisite: DAN 125 or departmental permission required*

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This is an intermediate dance class. Intricate combinations and faster rhythms lead to actual choreographed jazz dances by both the instructor and student. Theatre dance is emphasized. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 130: TAP DANCE I . . . . . 1 CREDIT**

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is designed for students interested in tap dancing, a form of dance in which the feet produce sounds by creating rhythmic patterns. The entire body is involved, yet the feet are isolated by the sounds they create. Class includes basic warm-up exercises and combinations along with lecture, demonstrations and videos. Students will spend additional time in the studio to satisfy course time requirements. (Students need to provide their own tap shoes.)

**DAN 131: TAP DANCE II. . . . . 1 CREDIT**

*Prerequisite: DAN 130 or departmental permission required*

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is designed for students interested in an intermediate level of tap dancing involving the entire body, yet more advanced foot work. Class will include intermediate warm-up exercises and traveling combinations along with lecture, demonstrations and videos. Students will spend additional time in the studio to satisfy course time requirements. (Students need to provide their own tap shoes.)

**DAN 134: DANCE HISTORY. . . . . 3 CREDITS**

*LEC 3 hrs., LAB 0 hrs., Course fee \$25*

*This course satisfies the Diversity/Global Perspective requirement.*

This course follows the historical development of dance, from the beginning of primitive movements to the dance theater of the 20th century. Slides, videos and examples of dance styles are used to exemplify the different periods of dance development. Written examinations, research papers, projects and a trip to Lincoln Center Library of Performing Arts Dance Collection in NYC are included.

**DAN 135: DANCE THEATRE WORKSHOP I. . . . 1 CREDIT**

*Prerequisite: Dance majors only or departmental permission required*

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is designed for the student interested in dance production. The course involves publicity work, costuming, design, auditions, rehearsals and possible performance. Practical experience is gained by participating in concerts at CCM, on stage and/or backstage. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 136: DANCE THEATRE WORKSHOP II . . . 1 CREDIT**

*Prerequisites: DAN 135, Dance majors only.*

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This class develops the student as a performer, choreographer, and/or backstage production artist. It is a continuation of Dance Theatre Workshop I, and serves as a vehicle for active participation in the CCM Dance Theatre. Students will earn credit by contributing to the productions through publicity work, budgeting, ticketing, programming, backstage lighting work, and/or performing and presenting original student works. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 137: BALLET I . . . . . 2 CREDIT**

*LEC 0 hrs., LAB 4 hrs., Course fee \$20*

This course stresses ballet barre work and alignment, stretching exercises, and basic adagios in the center and across the floor. Formal positions, directions and terminology are taught and reviewed. Ballet companies are discussed and injury prevention is stressed. Written and practical assignments are given. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 138: BALLET II . . . . . 2 CREDITS**

*Prerequisite: DAN 137 or departmental permission required*

*LEC 0 hrs., LAB 4 hrs., Course fee \$20*

This is a continuation of Ballet I leading to faster footwork and movement in the center and across the floor. Emphasis is on turns, glissades, jetes, etc., with continued work on stretching and strengthening correctly. Practical exams and assignments are given. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 141: MODERN DANCE I. . . . . 2 CREDITS**

*LEC 0 hrs., LAB 4 hrs., Course fee \$20*

This course emphasizes technique in contemporary dance as an art form. Floor combinations and creative movement across the floor are given, stressing proper alignment and injury prevention. Modern dance companies are discussed. Written and practical assignments. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 142: MODERN DANCE II . . . . . 2 CREDITS**

*Prerequisite: DAN 141 or departmental permission required*

*LEC 0 hrs., LAB 4 hrs., Course fee \$20*

This is a low intermediate technique course in contemporary dance. Emphasis is on creative explorations of movement already learned. Use of the spine, centering and injury prevention are stressed and utilized in movement combinations. Practical and written assignments. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 146: DANCE FOR MUSICAL THEATRE . . . 1 CREDIT**

*LEC 0 hrs., LAB 2 hrs., Course fee \$20*

This course is ideal for any student interested in Broadway Theater. This course gives students a movement base for auditions, performance and choreography covering musical styles ranging from the 1920s through the millennium. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 211: INTERMEDIATE BALLET . . . . .3 CREDITS**

*Prerequisite:* DAN 138 or departmental permission required

*LEC 0 hrs., LAB 6 hrs., Course fee \$25*

This is an intermediate-level ballet class that will emphasize style, alignment, and allegro movements and combinations. History, advanced vocabulary, and ballet as an art form will be discussed. Emphasis is on improved technique in preparation for performance quality. Assignments will be given, with additional time spent in a laboratory setting.

**DAN 212: ADVANCED BALLET. . . . .3 CREDITS**

*Prerequisite:* DAN 211 or departmental permission required

*LEC 0 hrs., LAB 6 hrs., Course fee \$25*

This advanced-level ballet class will continue the elements of Intermediate Ballet with emphasis on performance and audition. Some Pointe work may be done. This course is recommended for those students wishing to transfer into a four-year degree program in dance or those seeking a career in dance performance or instruction. Assignments will be given, with additional time spent in a laboratory setting.

**DAN 216: INTERMEDIATE MODERN DANCE. .3 CREDITS**

*Prerequisite:* DAN 142 or departmental permission required

*LEC 0 hrs., LAB 6 hrs., Course fee \$25*

This is an intermediate-level technique class in modern dance. Emphasis will be on creative movement and choreography, intricate combinations and movement for the stage. New technique by contemporary artists will be discussed and explored, with emphasis on technical mastery. Assignments to see live modern dance performances will be given. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 217: ADVANCED MODERN DANCE . . . .3 CREDITS**

*Prerequisite:* DAN 216 or departmental permission required

*LEC 0 hrs., LAB 6 hrs., Course fee \$25*

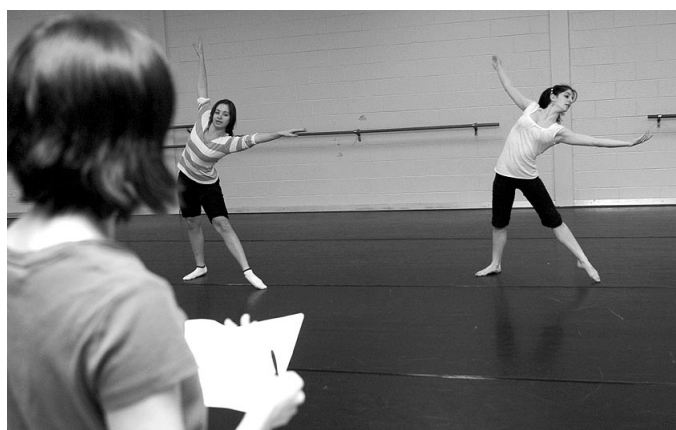
This advanced-level technique class will continue to train the dancer in intricate combinations of creative movement and choreography, and emphasizes performance and auditions. This course is recommended for those students wishing to transfer into a four-year degree program in dance or those seeking a career in dance. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 220: DANCE THEATRE WORKSHOP III . . . 1 CREDIT**

*Prerequisites:* DAN 136, Dance majors only.

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This class continues to develop the student as a performer, choreographer, and/or backstage production artist. It is a continuation of Dance Theatre Workshop II and serves as a vehicle for active participation in the CCM Dance Theatre. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 222: DANCE THEATRE WORKSHOP IV. . . 1 CREDIT**

*Prerequisites:* DAN 220, Dance majors only.

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This class is the culmination of the dance student's participation in the CCM Dance Theatre productions and a continuation of work done in Dance Theatre Workshop III. All aspects of dance production will be covered, with special emphasis on stage lighting. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 224: CHOREOGRAPHY I . . . . .3 CREDIT**

*Prerequisite:* DAN 141

*LEC 2 hrs., LAB 2 hrs., Course fee \$25*

This course focuses on both individual and group creativity of new movement phrases using improvisation and other choreographic tools leading to actual compositions by the students. Movement and written assignments will be given, and student and professional choreography will be viewed. Students will spend additional time in the studio to satisfy course time requirements.

**DAN 226: CHOREOGRAPHY II . . . . .3 CREDITS**

*Prerequisite:* DAN 224

*LEC 2 hrs., LAB 2 hrs., Course fee \$25*

This course will continue to explore elements of creative dance learned in Choreography I. Musical interpretation, narrative, prop studies, etc., will be stressed. Completed movement phrases leading to actual choreographed dances will be developed and considered for the stage. Costuming, lighting, and preparation for actual presentation will be emphasized. Movement and written assignments, with a final presentation required. Students will spend additional time in a laboratory setting as part of the course.

**DAN 230: DANCE INTERNSHIP. . . . .2 CREDITS**

*Prerequisite:* Dance Majors only

*LEC 1 hr., LAB 2 hrs.*

This course enables the student to complete on-or-off campus work/study in the dance field related to the student's goals as a dance major. Experience is gained in the dance field work force as a dancer, choreographer, instructor, or pre-approved dance program off-campus, or dance administrative work on or off-campus. The work experience is documented by the student and overseen by the professor. Recommendations are given to prospective employers by the faculty observer. This class should be taken in the student's final semester.



## Design

*Note: Students may be required to purchase supplies for LAB design courses.*

### DSN 110: HISTORY OF DESIGN AFA . . . . .3 CREDITS

*LEC 3 hrs., LAB 0 hrs.*

The History of Design is a survey of major developments of design as well as the methodology and cultural influences which impact particular designs. The nature, function and evolution of design will be studied through innovations in the architectural, interior, industrial, decorative, and fashion design. The development of concepts, relationship to the historical and cultural movement, and the impact on surrounding art and design communities will be explored.

### DSN 115: BASIC DRAFTING . . . . .3 CREDITS

*Prerequisites: ART 122, ART 130*

*LEC 1 hr., LAB 4 hrs.*

Basic Drafting is a beginner's course that will provide a solid foundation for all design and engineering courses. The study of materials and techniques in this course will introduce students to the many forms of graphical communication and how best to convey their ideas in a graphical form. Many techniques will be explored from pencil on vellum to pen on Mylar with furthering rendering techniques studies modified to focus on the individual's course direction.

### DSN 120: DESIGN CONCEPTS I AFA . . . . .3 CREDITS

*Prerequisites: ART 122, ART 130*

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

Design Concepts I is a detailed exploration of scale and proportion through two and three dimensional sketch problems varying in levels of complexity and duration. Projects will explore relationships between historical and cultural special systems and the relationship to the human proportion. Verbal and graphic communication skills will be emphasized as a method of articulating the development of visual concepts and solutions to design problems. Communication tools such as perspective will be explored in detail. Projects which include architectural, interior design, and furniture concepts will be reviewed through juried presentations.

### DSN 125: DESIGN RENDERING AFA . . . . .3 CREDITS

*Prerequisites: DSN 120, ART 122, ART 130*

*LEC 1 hr., LAB 4 hrs., Course fee \$75*

Presentation Rendering is an advanced level studio course that builds on the work completed in Drawing I and II. It is especially geared for students majoring in Design. The course concentrates on producing virtual product, fashion, architecture, and interior images through the means of controlled light. Emphasis will be placed on setting up proper perspective and generating a line drawing as an underlay. Color marker techniques will be stressed as well as color pencil. In addition, pen and ink techniques and water color will be explored. Students will be introduced to 3D computer modeling. At the end of the course each student will have a collection of portfolio quality renderings that demonstrate a high level of competence in a chosen field of design.

### DSN 135: FASHION CONSTRUCTION TECHNOLOGY I AFA . . . . .3 CREDITS

*LEC 1 hr., LAB 4 hrs., Course fee \$75*

This course will take a "hands-on" approach to the development, construction and presentation of fashion apparel, custom made clothing, and costuming for stage and screen. Construction techniques, fabrics, tools, and equipment will be explored in detail in the classroom and the community. Draping as a means of design and basic pattern drafting will be explored. Students will develop the skills necessary to construct and present projects of their own design to a panel of their peers and professionals.

### DSN 145: INTRODUCTION TO FASHION & VISUAL MERCHANDISING AFA . . .3 CREDITS

*Prerequisites: ART 122, ART 130, AFA, ENG 111, or Departmental permission*

*LEC 1 hr., LAB 4 hrs., Course Fee \$35*

Explore the interrelationship between the consumer and the various sectors of the fashion industry. Students will learn the principles and techniques that fashion merchandisers use in making key decisions on buying and product sourcing, store planning and layout. Students review actual case studies and take on projects that engage the merchandising planning and decision making process. This course is highly recommended for design and business students with interest in fashion merchandising and store plan layout.

### DSN 146: FASHION MERCHANDISING II . . . . .3 CREDIT

*Prerequisites: DSN 145*

*LEC 1 hr., LAB 4 hrs., Course fee \$35*

Explore the interrelationship between the consumer and the various sectors of the fashion industry. Students will learn the principles and techniques that fashion merchandisers use in making key decisions on buying and product sourcing, store planning and layout. Fashion as a retail component is also discussed. Students review actual case studies and take on product develop projects designed to enhance the student's comprehension of the subject. Course introduces math as an applied principal to merchandising

### DSN 155: COSTUME DESIGN & CONSTRUCTION AFA . . . . .3 CREDITS

*Prerequisites: DSN 120, DSN 135, DSN 160*

*LEC 1 hr., LAB 4 hrs., Course Fee \$75*

This is a course in advanced sewing techniques that builds on skills developed in Fashion Construction Technology I and II. With costume design, construction and creative problem-solving serving as the base, students learn advanced techniques in haute couture tailoring and further develop their designed fashion lines and portfolios.

### DSN 160: FASHION CONSTRUCTION TECHNOLOGY II AFA . . . . .3 CREDITS

*Prerequisites: DSN 135 or consent from Design advisor*

*LEC 1 hr., LAB 4 hrs., Course Fees \$75*

This advanced course in fashion construction techniques will concentrate on the details that set couture sewing apart from ready wear and standard home sewing. The student will explore hand detailed sewing, speed techniques, and embellishment while improving their skills in construction. Basis sewing knowledge is a must for this class.

**DSN 165: DRAWING FOR DESIGNERS AFA . . .3 CREDITS***Prerequisites: ART 122**LEC 1 hr., LAB 4 hrs., Course Fee \$75*

A studio course that introduces the design student to the many techniques of drawing desired as a design professional. The course will explore perspective, line quality, and the graphic visualization process as well as method, materials, and subject matter. Students will learn to use rapid visualization skills in solving complex design problems.

**DSN 219: ADVANCED CAD 3D MODELING . . .3 CREDITS***Prerequisites: ENR 117 (CAD I) and ENR 118 (CAD II), DSN 120**LEC 1 hr., LAB 4 hrs.*

Upon completing CAD I and CAD II, students are next expected to acquire advanced skills in 3D modeling. This course will expand on the lessons learned in CAD I and II and teach the students valuable skills that are critical to the product and build environments. Working with advanced digital imaging software like Adobe Revit and #D Studio Max, students will learn to generate modeled images with a critical determination.

**DSN 220: DESIGN CONCEPTS II . . . . .3 CREDIT***Prerequisites: DSN 120**LEC 2 hrs., LAB 3 hrs., Course fee \$75*

Design Concepts II is a continuation of Design Concepts I through projects focusing on the design methodology of problem solving. Projects will explore issues through sketches and three dimensional scaled models of products and spaces. Students will be expected to draw from their total design, visual and technical experiences in the development and communication of visual concepts. Projects will include architectural, industrial design, decorative arts, and fashion design will be reviewed through juried presentations.

**DSN 234: INDEPENDENT STUDY IN DESIGN . 1-3 CREDITS***Prerequisite: Permission of the department chairperson**LEC 1-3 hrs., LAB 0 hrs.*

This course provides an opportunity for selected students to participate in independent work under close supervision of a Design faculty member. Interested students should make their interest known to the chairperson early in the prior semester. Chairperson will determine criteria for selection.

**DSN 255: FASHION DESIGN COMPUTER . . . .3 CREDITS***Prerequisite: DSN 120 or Permission from the Advisor**LEC 1 hr., LAB 4 hrs.*

Fashion Design and merchandising students will learn to design fashion garments and generate fashion promotional utilizing the computer and advanced digital imaging software. Adobe Illustrator and Photoshop will be utilized along with other modeling programs.

**DSN 291: SPECIAL TOPICS IN DESIGN I . . . . .3 CREDIT***LEC 1 hr., LAB 4 hrs., Course Fee \$75*

The Special Topics in Design I course allows for the insertion of relevant but unscheduled courses into the curriculum. The course content will include specific technical or aesthetic topics that have both a lecture and a laboratory (studio) component in an area of Design.

**DSN 292: SPECIAL TOPICS IN DESIGN II . . . . .3 CREDIT***LEC 1 hr., LAB 4 hrs., Course Fee \$75*

The Special Topics in Design II course allows for the insertion of relevant but unscheduled courses into the curriculum. The course content will include specific technical or aesthetic topics that have both a lecture and a laboratory (studio) component in an area of Design.

**DSN 293: SPECIAL TOPICS IN DESIGN III . . .3 CREDITS***LEC 3 hr., LAB 0 hrs.*

The Special Topics in Design III course allows for the insertion of relevant but unscheduled courses into the curriculum. The course content will include specific technical or aesthetic Design topics that may be delivered in a lecture format.

**Drama****DRA 110: ACTING I – AFA . . . . .3 CREDITS***LEC 2 hrs., STUDIO 2 hrs.*

This course concentrates on the basic principles of acting. Students are expected to apply these principles in frequent exercises, mimes, improvisations and at least four major roles.

**DRA 112: ACTING II – AFA . . . . .3 CREDITS***Prerequisite: DRA 110 or permission of program coordinator**Lec 2 hrs., Studio 2 hrs.*

An advanced course in acting with emphasis on scene work. Students are responsible for the rehearsal, presentation, and written analysis of six scenes.

**DRA 114: THE DRAMA WORKSHOP – AFA . . .3 CREDITS***LEC 2 hrs., STUDIO 2 hrs.*

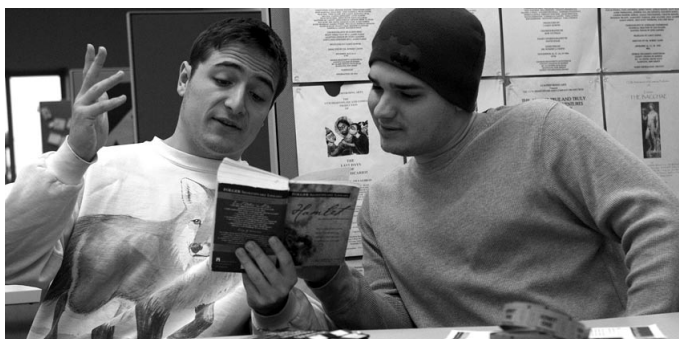
This course is an introduction to the major elements of play production, both onstage (improvisation, mime, acting) and backstage (set design, costuming, makeup). These skills will be investigated through in-class exercises and will culminate in the presentation of a short scene.

**DRA 210: ACTING III – AFA . . . . .3 CREDITS***Prerequisites: DRA 110, 112**LEC 2 hrs., STUDIO 2 hrs.*

An advanced course that applies the scene study techniques from Acting II to roles from the classical repertoire. Students will present scenes from Greek tragedy, Shakespeare, Commedia dell'Arte, as well as representative scenes from modern and contemporary theatre. A written scene analysis is required for each presentation.

**DRA 212: ACTING IV – AFA . . . . .3 CREDITS***Prerequisites: DRA 110, 112, 210**LEC 2 hrs., STUDIO 2 hrs.*

This course will focus on advanced scene work as well as the practical aspects of life as a working actor. Auditioning, landing a role, preparing resumes and head-shots, finding agents, etc. will be some of the topics discussed.



### **DRA 220: VOICE FOR THE ACTOR – AFA . . . 3 CREDITS**

*LEC 2 hrs., STUDIO 2 hrs.*

This course develops the student's awareness of the vocal mechanism through the use of the Linklater approach. The focus of this course is in feeling and experiencing the voice and how it works. Each student participates in a Master Class situation.

### **DRA 222: MOVEMENT FOR THE ACTOR – AFA . 3 CREDITS**

*LEC 2 hrs., STUDIO 2 hrs.*

This course is an experiential creative workshop based on Laban Movement Analysis to develop the performer's movement, description, observation and performance skills.

### **DRA 224: INTRODUCTION TO TECHNICAL THEATRE – AFA . . . 3 CREDITS**

*LEC 2 hrs., STUDIO 2 hrs.*

This course takes a "hands-on" approach to all the steps required to mount a full production: set design and set construction, lighting, sound and special effects. Students are required to work as members of the various technical crews for the main-stage productions during the semester.

### **DRA 229: DIRECTING – AFA . . . . . 3 CREDITS**

*Prerequisite: DRA 114*

*LEC 2 hrs., STUDIO 2 hrs.*

This course is designed to acquaint students with the basic functions and the importance of the director in theatre, simultaneously providing them with the opportunity for creative, hands-on directing experience. Each student will direct four scenes from a classis play as a final project.

### **DRA 116: DRAMATIC PERFORMANCE I–AFA. . 1 CREDIT**

*LEC 1 hr., STUDIO 0 hrs.*

### **DRA 118: DRAMATIC PERFORMANCE II–AFA . 1 CREDIT**

*LEC 1 hr., STUDIO 0 hrs.*

### **DRA 216: DRAMATIC PERFORMANCE III–AFA. 1 CREDIT**

*LEC 1 hr., STUDIO 0 hrs.*

### **DRA 218: DRAMATIC PERFORMANCE IV–AFA . 1 CREDIT**

*LEC 1 hr., STUDIO 0 hrs.*

The study of the various components of play production resulting in the mounting of a full-scale drama or comedy taken from both the classical and contemporary theatre. Students participate as actors, technicians, and crew members.

### **DRA 231: INTERNSHIP IN THEATRE ARTS – AFA . . . . . 3 CREDITS**

*Prerequisites: DRA 110, 116 and DRA 114 or DRA 224.*

*Approval of program coordinator and a minimum 2.0 grade point average.*

*Corequisite: DRA 232*

*LEC 3 hrs., LAB 0 hrs.*

The CCM/12 Miles West Theatre Internship enables students to apply classroom theatre knowledge to a supervised practical experience in a professional theatre. Internship requirements of a minimum of 150 hours are met through significant participation in the backstage, production, stage and house management of the 12 Miles West Theatre, with the opportunity to audition for activities onstage. Students are required to participate in three different capacities in three 12 Miles West productions during the semester.

### **DRA 232: WORK/INTERNSHIP RELATED CLASS . . . . . 1 CREDIT**

*Prerequisites: DRA 110, 116 and DRA 114 or DRA 224.*

*Approval of program coordinator and a minimum 2.0 grade point average.*

*Corequisite: DRA 231*

*LEC 1 hr., LAB 0 hrs.*

A related class designed to supplement the student's work experience. Weekly meetings include discussion, written assignments and critical analysis of the internship experience.

## **Early Childhood Education**

### **CDC 110: EARLY CHILDHOOD DEVELOPMENT . . . . . 3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course will focus on the growth and development of the child, birth through age eight. Special emphasis will be placed on cognitive, language, physical, social, and emotional development. It will cover a variety of factors that influence child development. The objectives of this course are for the student to understand that a variety of factors influence the behavior of the child. In understanding the capability of the developing child, the early childhood teacher will be better enabled to provide the child with appropriate care. A field work component includes observations of children's behavior in an early childhood setting. The purpose of this is to understand the need for goals, helping the child achieve these goals, and providing for individual differences.

### **CDC 228: COOPERATIVE WORK EXPERIENCE – CHILD CARE . . . . . 3 CREDITS**

*Prerequisite: PSY 113, PSY 213, PSY 217, ENG 118, MUS 129, ART 101*

*Corequisite: CDC 229*

*LEC 3 hrs., LAB 0 hrs.*

This course provides selected students in the Early Childhood programs with job-oriented training and practical experience in a work environment. Students desiring to participate in this experience should make this intention known to the Faculty Coordinator at the beginning of their third semester.

## **CDC 229: COOPERATIVE WORK EXPERIENCE – CHILD CARE-RELATED CLASS. . . . .1 CREDIT**

*Prerequisite:* PSY 113, PSY 213, PSY 217, ENG 118, MUS 129, ART 101

*Corequisite:* CDC 228

*LEC 1 hr., LAB 0 hrs.*

A supplement to the cooperative work experience program, this course provides a variety of experiences that will further enhance students' career development and occupational development. It also will develop positive points of view toward human relationships and the responsibilities of both the employee and the employer.

## **Economics**

*Note:* ECO 113 is not recommended for Business Administration majors, Curriculum 2110.

### **ECO 113: ELEMENTS OF ECONOMICS. . . . .3 CREDITS**

*Prerequisite or Co-requisite:* MAT 011 or equivalent

*For Career Option Students*

*LEC 3 hrs., LAB 0 hrs.*

This is a one-semester course that combines abstract principles, simple geometric approaches, applied problems and their analysis for those students seeking an understanding of some fundamental economic principles and laws. This understanding is enhanced by exploring the mechanics, operations and usefulness of economics to consumers, businesses, governments, both nationally and internationally.

### **ECO 120: ECONOMICS AND ECONOMIC ISSUES. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs*

This course combines economic principles with applications to contemporary problems. Emphasis is placed on using economic concepts to analyze and understand social, political, philosophical, and diversity issues.

### **ECO 211: PRINCIPLES OF ECONOMICS I: MACROECONOMICS. . . . .3 CREDITS**

*Prerequisite:* MAT 016 or equivalent

*LEC 3 hrs., LAB 0 hrs.*

Macroeconomics is the study of aggregate economic behavior. National income, employment, price stability, and economic growth are analyzed. Fiscal and monetary policies to alleviate inflation and unemployment are also studied.

### **ECO 212: PRINCIPLES OF ECONOMICS II: MICROECONOMICS . . . . .3 CREDITS**

*Prerequisite:* ECO 211

*LEC 3 hrs., LAB 0 hrs.*

Microeconomics is the study of prices and markets. Product and resource markets under competitive and non-competitive conditions are analyzed. Behavior of the firm in the determination of price, output, and employment of the factors of production is examined. This course includes an introduction to international economics.

## **Education**

### **EDU 111: TEACHING IN AMERICA: FOUNDATIONS AND CONTEMPORARY ISSUES . . . . .3 CREDITS**

*Prerequisite:* All basic skills/remediation in English must be completed.

*Prerequisite or Corequisite:* PSY 113

*LEC 3 hrs. LAB 0 hrs.*

This course presents the historical and philosophical foundations of American Education and how they relate to contemporary issues facing teachers in America today. The goal is a comprehensive understanding of the development of the teaching profession including both its roots and modern-day direction. The course offers theoretical and practical learning experiences including field experience in public schools.

### **EDU 211: BEHAVIOR OBSERVATION IN EDUCATION. . . . .3 CREDITS**

*Prerequisites:* PSY 113, EDU 111

*Prerequisite or Corequisite:* PSY 217

*LEC 3 hrs. LAB 0 hrs.*

This course uses weekly seminars and twenty hours of field experience in public schools to integrate theory and classroom observations in order for prospective teachers to understand curriculum development, and instructional methods. Aspiring teachers will learn how to use descriptive research methods to gain insight into the instructional needs of learners by observing them in their natural classroom settings. Armed with this experiential knowledge, the students will use the seminar to report and discuss their observed findings, as well as relate this practical information to the theories of curriculum development and instructional strategies.

## **Electronics Engineering Technology**

*NOTE:* Computer usage and Internet access may be required in the following courses.

### **ELT 110: DIGITAL PRINCIPLES. . . . .3 CREDITS**

*LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course develops the fundamentals of the binary system. Circuit implementation from Boolean functions and map minimization. Course includes study of combinational logic, sequential logic circuits, flip-flops, counters, and shift register. The laboratory allows the student to apply theory to practical digital circuits.

### **ELT 115: ACTIVE CIRCUIT COMPONENTS . . .3 CREDITS**

*Prerequisite:* ENR 124

*LEC 2 hrs., LAB 4 hrs., Course fee \$30*

This course introduces the behavior of semiconductor electronic devices and develops the device characteristics. Some DC and AC fundamental circuit theory is introduced so that the active devices can be properly analyzed. Biasing techniques and models of amplifier configurations are stressed for the bipolar transistor and field effect devices. Diodes, rectifiers, filtering, and switching circuit applications are studied. Laboratory includes the verification of device characteristics and the testing of basic amplifier and switching configurations.



**ELT 121: CIRCUIT ANALYSIS . . . . .4 CREDITS***Prerequisite: MAT 110 AND ENR 124**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course introduces the student to both DC and AC Circuit Theory. It includes Ohm's and Kirchoff's Laws for analysis of series and parallel circuits. Computer circuit simulation of series-parallel, ladder and bridge networks in both DC and AC are analyzed. Resonance and frequency response are included along with some discussion of AC power and transformers. The laboratory experiments are designed to support the theory and obtain measurement skills.

**ELT 123: STUDIO MAINTENANCE . . . . .3 CREDITS***Prerequisite: MUS 165 (For Music Recording Majors Only)**LEC 2 hrs., LAB 2 hrs., Course fee \$75*

This course provides students an introduction to music studio electronics. Basic skills of working with electronic components are covered, including soldering, the use of electronic measuring equipment, and troubleshooting procedures. Studio cabling and infrastructure will be dealt with extensively. Various wiring schemes and grounding techniques will be examined to give the student an understanding of the typical music studio layout found in the professional environment. This course will be offered in the Fall and Spring

**ELT 200: BIOMEDICAL ELECTRONICS . . . . .3 CREDITS***Prerequisite: ELT 115 and ELT 121 or ELT 201**LEC 3 hrs., LAB 0 hrs.*

This course is the study of the techniques and theory behind the instrumentation utilized in hospital and health-related laboratory work. Emphasis will be placed on physiological signals derived from the body, and the problems and safety issues associated with their measurement. Demonstrations to be conducted in class.

**ELT 201: ELECTRICITY AND ELECTRONICS . . .4 CREDITS***Prerequisite: MAT 110 or equivalent**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course is a fundamental study of electricity and electronics for engineering technology majors. The principles of electrical components and circuits are studied in class and laboratory. Topics include DC, AC series and parallel circuits, transformers and power supplies, solid state amplifiers and control components. The laboratory will enable the student to apply the theory discussed in class and to gain some proficiency in the use of electronic measuring equipment.

**ELT 208: AIRCRAFT ELECTRONICS . . . . .3 CREDITS***Prerequisite: ELT 231**LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course provides the student with the opportunity to study how electronics are utilized within the aircraft environment. Aircraft electronics systems such as communications, navigation and air traffic control systems are studied. The troubleshooting, maintenance and repair of various pieces of electronic equipment are discussed, as well as the regulations which govern the industry.

**ELT 209: ADVANCED DIGITAL  
AND MICROPROCESSORS . . . . .4 CREDITS***Prerequisite: ELT 110 and ENR 120**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course is an extension of digital theory into the operation and interfacing of microprocessors. Major topics include sequential logic design, memory organization, microprocessor architecture, machine level programming, A/D and D/A conversion, and serial and parallel interfacing. An associated laboratory provides for hands-on microprocessor interfacing and the use of logic analyzers.

**ELT 210: ELECTRONIC FABRICATION . . . . .1 CREDIT***Prerequisite: ENR 117**LEC 0 hrs., LAB 3 hrs., Course fee \$30*

This course provides the student with an opportunity to learn about the process involved in the fabrication of electronic circuit boards. Using Computer-Aided Drafting tools the student creates an electronic component layout and the necessary art work for the construction of a printed circuit board. The student is introduced to project management concepts and techniques, soldering, test specifications and printed circuit board construction. A term project or a series of smaller projects will enable the student to manage, build and assemble a printed circuit board and to develop test specifications.

**ELT 213: ACTIVE CIRCUIT DESIGN . . . . .4 CREDITS***Prerequisites: ELT 115 and ELT 121 or ELT 201**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course covers analysis and design of solid-state amplifiers using bipolar and field effect transistors. Topics include frequency response using Bode plots and feedback analysis as applied to operational amplifiers and oscillators. Laboratory verification includes transistors, amplifiers, power amplifiers, IC operational amplifiers and oscillators.

**ELT 215: INDUSTRIAL ELECTRONICS . . . . .4 CREDITS***Prerequisites: ELT 209 and 213**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course covers operational amplifiers in linear, non-linear and active filter applications, pulse and wave-shaping techniques, power supplies and regulators, thyristor control of power and transducers. The laboratory will include experiments in design and tests to support the above topics.

**ELT 227: BIOMEDICAL CLINICAL  
EXPERIENCE . . . . .3 CREDITS***Prerequisites: ELT 200, 209, 213**Course fee \$60*

This course provides the student with a 200 hour internship at a local hospital. The student will assist in the maintenance and calibration of biomedical electronic equipment. The student must abide by any rules and regulations stipulated in the affiliation agreement with the partnering hospital. As a minimum, the student is required to purchase liability insurance and agree to a criminal background check.



### **ELT 230: OPTOELECTRONICS . . . . .3 CREDITS**

*Prerequisites: ELT 115 or ELT 201*

LEC 2 hrs., LAB 3 hrs., Course fee \$30

This course covers principles of light and linear optics characteristics of electro-optical light sources and detectors and their applications in industry, displays and communication (fiber optics). Lab experiments demonstrate electro-optical measurements and designs of typical applications of electro-optical devices.

### **ELT 231: ELECTRONIC COMMUNICATION SYSTEMS . . . . .4 CREDITS**

*Prerequisites: ELT 201*

LEC 3 hrs., LAB 3 hrs., Course fee \$30

This course covers A.M., F.M., and single side-band communication systems, including an introduction to digital transmission. Designed to familiarize the student with transmitters, receivers, modems, noise analysis, information theory, pulse modulation, sampling, coding, multiplexing, and other signal processing techniques used in commercial broadcasting and data transmission systems. Some coverage of transmission lines, antennas, microwaves and satellites. Includes laboratory work involving communication system components and techniques using industrial grade equipment.

### **ELT 239: COOPERATIVE WORK EXPERIENCE – ELECTRONICS ENGINEERING TECHNOLOGY . . . . .3 CREDITS**

*Prerequisite: Permission of the department. (Student must have completed 35 credits)*

This course provides a field experience in the laboratory facilities of an industrial firm. Designed for the students in programs 3600 and 3601 to obtain industrial experience as a supplement to his/her college studies prior to career employment. Seminar evaluation visitations are included.

### **ELT 291, 292: SPECIAL TOPICS IN ELECTRONICS ENGINEERING TECHNOLOGY. 3 CREDITS**

*Prerequisite: Permission of the Chairperson required.*

LEC 2 hrs., LAB 3 hrs.

This course provides an examination of selected topics or issues in Electronics Engineering Technology. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## **Engineering Science**

*(Also See Engineering Technology)*

**NOTE:** Computer usage and Internet access may be required in the following courses.

### **ENR 121: ENGINEERING GRAPHICS . . . . .2 CREDITS**

*Prerequisite: MAT 123*

LEC 1 hr., LAB 3 hrs., Course fee \$30

This course is an introduction to computer aided design software and hardware. Geometric constructions multiview orthographic projection, dimensioning, sectioning, auxiliary view and axonometric projection. Principles of descriptive geometry. A brief introduction to solid modeling. This course is intended for Engineering Science students; Engineering Technology students take ENR 117.

### **ENR 123: INTRODUCTION TO ENGINEERING . N1 CREDIT**

LEC 1 hr., LAB 0 hrs.

This course provides the entering engineering student with an overview of the engineering profession and the design process. Topics discussed include the engineering course of study, academic advisement and transfer processes, types of engineering disciplines, problem solving techniques, typical software tools, reporting techniques, and study skills.

### **ENR 125: COMPUTER PROGRAMMING FOR ENGINEERS. . . . .3 CREDITS**

*Prerequisite: MAT 123*

LEC 2 hrs., LAB 2 hrs., Course fee \$30

A course in structured and object-oriented programming, emphasizing engineering applications and numerical methods in assignments. Program assignments are coded and are implemented on personal computers.

### **ENR 222: MECHANICS OF SOLIDS . . . . .3 CREDITS**

*Prerequisite: ENR 223*

LEC 3 hrs., LAB 0 hrs.

Principles of strength of materials are derived for uniaxial stresses and strains, direct shear, torsion bending and combined stresses and column buckling. Also, covered in the course is axial force, shear moment and torque in structural members, and in statically indeterminate systems. Elementary failure theory of structures and mechanical components is discussed.

### **ENR 223: ENGINEERING MECHANICS I (STATICS). . . . .3 CREDITS**

*Prerequisites: MAT 131 and PHY 130*

LEC 3 hrs., LAB 0 hrs.

This course is a vector approach to statics in a plane and in three dimensions, equilibrium of particles and rigid bodies. Equivalent force systems, structural analysis, centroids and moments of inertia. Virtual work. Applied engineering problems.

**ENR 224: ENGINEERING MECHANICS II  
(DYNAMICS) . . . . . 3 CREDITS***Prerequisite: ENR 223**LEC 3 hrs., LAB 0 hrs.*

This course is a calculus-based course in dynamics. Kinematics and kinetics of particles and rigid bodies, Newton's laws, work, energy, impulse and momentum are covered. Practical engineering problems.

**ENR 230: ENGINEERING  
STRENGTH OF MATERIALS. . . . . 4 CREDITS***Prerequisite: ENR 223**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

Principles of strength of materials are derived for uniaxial stresses and strains, direct shear, torsion bending and combined stresses and column buckling. Elementary failure theory of structures and mechanical components is discussed. Laboratory covers a variety of tensile stress-strain, impact and hardness tests as well as shear stress-strain and the techniques of report writing.

**ENR 232: MATERIALS SCIENCE. . . . . 3 CREDITS***Prerequisites: CHM 125 and CHM 126 and PHY 130**LEC 3 hrs., LAB 0 hrs.*

This course covers the properties and structure of materials: Atomic bonding, molecular, crystalline, noncrystalline structures and crystalline imperfections. Also covers metallic phases, equilibrium and nonequilibrium reactions, processing and properties of ferrous and non-ferrous metals, polymers, ceramics and composites. In addition, corrosion phenomenon is discussed.

**ENR 235: ENGINEERING CIRCUIT ANALYSIS I . 3 CREDITS***Prerequisite: MAT 132**LEC 3 hrs., LAB 0 hrs.*

This first course in engineering circuit analysis covers DC circuit analysis including source transformations, mesh, nodal, superposition, Thevenin and Norton theorems, and the maximum power transfer theorem. Dependent as well as independent sources are included. Transient response of RC, RL and RLC circuits is introduced. Steady-state analysis of single and three phase AC systems is studied using phasor diagrams and the network theorems mentioned above. Real, reactive, apparent power and power factors are included. Use of the computer as a problem-solving tool is included in the course.

**ENR 236: ENGINEERING CIRCUIT ANALYSIS  
LABORATORY I . . . . . 1 CREDIT***Corequisite: ENR 235**LEC 0 hrs., LAB 3 hrs., Course fee \$30*

This laboratory course includes experiments in DC, AC, and transients to accompany the course work in Engineering Circuit Analysis I.

**ENR 237: ENGINEERING  
CIRCUIT ANALYSIS II . . . . . 3 CREDITS***Prerequisite: ENR 235**Corequisite: MAT 232**LEC 3 hrs., LAB 0 hrs.*

This is a second course in engineering circuit analysis. Natural and step response of RL, RC and RLC circuits, mutual inductance, ideal transformers, series and parallel resonance are studied.

Laplace transform theory is covered and includes step and impulse response in the S-domain. Bode diagrams of simple and quadratic factors are plotted and the computer is used for actual frequency and phase plots. Fourier Series are studied using both trigonometric and exponential forms.

**ENR 238: ENGINEERING CIRCUIT ANALYSIS  
LABORATORY II . . . . . 1 CREDIT***Prerequisite: ENR 236**Corequisite: ENR 237**LEC 0 hrs., LAB 3 hrs., Course fee \$30*

This laboratory course includes experiments on transformers, series and parallel resonance, filters and frequency/phase response plots, and two-port hybrid models to accompany the course work in Engineering Circuit Analysis II.

**ENR 291, 292: SPECIAL TOPICS  
IN ENGINEERING . . . . . 3 CREDITS***Prerequisite: Permission of the Department.**LEC 3 hrs., LAB 0 hrs.*

This course is an examination of selected topics or issues in engineering. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

**Engineering Technology***(Also See Engineering Science)*

**NOTE:** Computer usage and Internet access may be required in the following courses.

**ENR 103: BASIC ENGINEERING GRAPHICS I . 1 CREDIT***LEC 0 hrs., LAB 3 hrs*

Learning fundamentals of Engineering Drawing through freehand sketching. Developing Orthographic views including Auxiliary views, Dimensioning, Sectioning, Tolerancing, Threads, Fasteners, Springs and Assembly drawings. Creation of Pictorial drawings.

**ENR 117: COMPUTER-AIDED DRAFTING I . . 2 CREDITS***LEC 1 hr., LAB 4 hrs., Course fee \$30*

This course is an introduction to the concepts and operation of engineering drawing preparation using CAD (Computer-Aided Drafting). Emphases on how CAD can reduce drawing time and improve accuracy. Students will learn to use the AutoCAD software program to prepare drawings.

**ENR 118: COMPUTER-AIDED DRAFTING II . . 2 CREDITS***Prerequisite: ENR 117**LEC 1 hr., LAB 4 hrs., Course fee \$30*

This course is a continuation and enhancement of Computer-Aided Drafting I. Topics include prototype drawings, blocks, attributes, x-reference, grips, paper space and development of 3-Dimensional solid modeling.

### ENR 119: TECHNICAL COMPUTER APPLICATIONS .....1 CREDIT

*Prerequisite:* MAT 011

*LEC 0 hrs., LAB 3 hrs., Course fee \$30*

This course provides an introduction to the various technical tools available to help solve problems in the field of engineering technology. This is a hands-on laboratory course designed to provide the student with experience in using scientific calculators, Windows Operating System, Microsoft Office and Internet search tools. Special emphasis will be placed on the development of technical reports using Microsoft Office's EXCEL and Word programs.

### ENR 120: TECHNICAL COMPUTER PROGRAMMING.....2 CREDITS

*Prerequisite:* MAT 014 or MAT 050

*LEC 2 hrs., LAB 2 hrs., Course fee \$30*

This course is an introduction to computer programming with application to engineering technology. Microcomputers will be used to develop application programs in a programming language.

### ENR 124: INSTRUMENTATION AND MEASUREMENTS .....2 CREDITS

*Prerequisite:* MAT 011

*Corequisite:* ENR 119

*LEC 1 hr., LAB 3 hrs., Course fee \$30*

This course is an introductory study in the concepts involving physical measurements utilizing hands-on electrical and mechanical measurement applications. Use of basic instruments and transducers, accuracy and precision, units and standards of measurements, accounting and presentation of errors in measurements.

### ENR 126: COMPUTER AIDED DESIGN AND APPLICATIONS.....2 CREDITS

*Prerequisite:* ENR 117

*LEC 1 hr., LAB 4 hrs., Course fee \$30*

An introductory course in computer aided design using parametric solid modeling software. Creation of solid models of parts, generation of orthographic views, sectional views and auxiliary views will be covered. Dimensioning and tolerancing of parts is emphasized along with development of appropriate files to make the parts for product development using rapid prototyping (3d printing) and to manufacture parts using computerized numerical control machines.

### ENR 220: HYDRAULICS AND FLUID POWER .3 CREDITS

*Prerequisites* MAT 110

*LEC 2 hrs., LAB 2 hrs. Course fee: \$30*

This course is an exploration into the relationship between pressure, density, and temperature as they relate to hydraulic and pneumatic systems. Topics include hydraulic pumps, motors, and air compressors. The course will emphasize use of engineering standards and specifications for circuit design and component selection. Electrical controls and application to systems will be covered. Lab sessions will further expand upon lectures by providing students with physical evidence to support theories and ideas acquired in class.



### ENR 234: INDEPENDENT STUDY IN TECHNOLOGY.....3 CREDITS

*Prerequisite:* Permission of Chairperson

This course is for students in Engineering Technologies. The student selects an area of interest and proposes a plan of study to a sponsoring faculty member who will supervise and evaluate the student's progress.

### ENR 240: ENGINEERING TECHNOLOGY PROJECT .....3 CREDITS

*Prerequisite:* ENR 117 and MEC 110 and MEC 141

*LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course covers the design of products and processes considering functional requirements, manufacturing feasibility and economy. The use of technical literature and catalogs. Design layout and working drawings. Group and individual projects.

### ENR 241: INSTRUMENTATION AND CONTROL .....3 CREDITS

*Prerequisites:* ELT 201

*LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course is an introduction to the study of measuring systems and components, digital and analog signals and their characteristics. Mechanical and electromechanical transducer elements to measure pressure, temperature, displacement, velocity and acceleration. Static and dynamic performance of instruments, statistical analysis of experimental data. A brief study of process controllers, programmable logic controllers, and final control elements.

### ENR 290: SPECIAL TOPICS IN TECHNOLOGY .1 CREDIT

*Prerequisite:* Department Permission

*LEC 1 hr., LAB 0 hrs.*

This course is for students in Engineering Technologies. The student selects an area of interest and proposes a plan of study to a sponsoring faculty member who will supervise and evaluate the student's progress, when used for independent study. The course is also used to cover either current or future topics of interest in technology. Topics discussed will have relevance to either electronics technology, mechanical technology or both, and may vary each semester.



## English

### ENG 007: WRITING SKILLS REVIEW . . . . . N1 CREDIT

*Prerequisite: Enrollment from college's placement test.*

*LEC 0 hrs., LAB 8 hrs.*

An intense mini-course focused on the remediation of an individual's writing deficiencies as evidenced on the College's Placement Test. Students could be placed in this course as a pre-requisite to ENG 111.

### ENG 025: WRITING SKILLS . . . . . N3 CREDITS

*Prerequisite: Enrollment from college's placement test.*

*LEC 3 hrs., LAB 0 hrs.*

Designed to increase the student's proficiency in writing skills, paragraph development, the topic sentence, transitional techniques, comprehension, and supplemental structure and grammar. Lead to the short essay in preparation for English Composition I.

### ENG 109: SPEECH FUNDAMENTALS . . . . . 3 CREDITS

*Prerequisite: Placement basis or ENG 025*

*LEC 3 hrs., LAB 0 hrs.*

Emphasizes the fundamentals of organizing, writing, and presenting informative and persuasive material. Attention is given to each student's use of voice and speech in the communication of ideas, as well as to the development of creative abilities, critical insights and listening skills.

### ENG 110: PUBLIC SPEAKING . . . . . 3 CREDITS

*Prerequisite: ENG 109*

*LEC 3 hrs., LAB 0 hrs.*

Designed for the student who wishes to pursue a career involving active contact with the public. Emphasis will be placed on the refinement of the techniques of persuasive speaking including audience analysis, emotional appeals vs. intellectual appeals and the ethics of persuasion.

### ENG 111: ENGLISH COMPOSITION I . . . . . 3 CREDITS

*Prerequisite: Placement basis or ENG 025*

*LEC 3 hrs., LAB 0 hrs.*

The first half of the six-credit communications requirement emphasizes the fundamentals of written communications including expository prose, reading comprehension and interpretation, and rhetorical modes.

### ENG 112: ENGLISH COMPOSITION II . . . . . 3 CREDITS

*Prerequisite: ENG 111 or ENG 131*

*LEC 3 hrs., LAB 0 hrs.*

The second half of the English Communications requirement continues emphasis on expository prose and critical writing through the use of literary genres. Methods of literary research and a research paper are required.

### ENG 113: CREATIVE WRITING . . . . . 3 CREDITS

*Corequisite: ENG 111 or ENG 131*

*LEC 3 hrs., LAB 0 hrs.*

A workshop course designed to encourage and develop talent in the writing of poetry, short fiction and/or drama. Class discussions center on manuscripts submitted by the students.

### ENG 114: ADVANCED CREATIVE WRITING . . 3 CREDITS

*Prerequisite: ENG 113*

*LEC 3 hrs., LAB 0 hrs.*

A writer's workshop designed for students who have successfully completed Creative Writing and who wish to improve their work through discussion of class submissions and the works of established writers.

### ENG 115: THE SHORT STORY . . . . . 3 CREDITS

*Prerequisite: ENG 111 or ENG 131*

*LEC 3 hrs., LAB 0 hrs.*

A study of the short story as a specialized art form, involving the study of writing techniques and styles, films and critical analysis of selected stories.

### ENG 116: THE NOVEL . . . . . 3 CREDITS

*Prerequisite: ENG 111 or ENG 131*

*LEC 3 hrs., LAB 0 hrs.*

A survey of novels both classic and contemporary, with particular attention to the methods by which such novels are created. Included may be novelists as varied as Dickens, Camus, Flaubert, Vonnegut, Dostoyevsky, Bellow, Joyce and Hesse.

### ENG 118: CHILDREN'S LITERATURE . . . . . 3 CREDITS

*Prerequisite: ENG 111 or ENG 131.*

*LEC 3 hrs., LAB 0 hrs.*

This course satisfies the Diversity/Global Perspective requirement.

A survey of children's literature including poetry, picture books, fairy tales and folklore, myths and epics, realistic fiction and fantasy, with a special emphasis on multicultural and ethnic works.

### ENG 119: INTRODUCTION TO POETRY . . . . . 3 CREDITS

*Prerequisite: ENG 111 or ENG 131*

*LEC 3 hrs., LAB 0 hrs.*

Designed for the beginner to develop skill and confidence in reading, understanding, evaluating and appreciating poetry. Includes a wide variety of material but emphasizes short lyrics by major British and American authors. Students are not required to write original poetry.

### ENG 121: INTRODUCTION TO LINGUISTICS . . 3 CREDITS

*Prerequisite: ENG 111 or ENG 131*

*LEC 3 hrs., LAB 0 hrs.*

An overview of the dynamics of language, specifically American English. The course examines the fundamental concepts of language development and variation. Major topics include how we communicate, dialectical variations, language development and change, and language and gender.

### ENG 123: INTRODUCTION TO LINGUISTICS – HONORS . . . . . 3 CREDITS

*LEC 3 hrs., LAB 0 hrs.*

*Prerequisites: ENG 111 or ENG 131 and permission of honors coordinator or department.*

The course examines the fundamental concepts of language structure and dynamics, including language development, variation,

and change. Students are required to apply and expand basic theory through independent research and projects that will be presented to the class.

### **ENG 131: ENGLISH COMPOSITION I – HONORS . . . . .3 CREDITS**

*Prerequisite: Permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

An advanced course in rhetoric and expository writing for students selected on the basis of academic record, testing, or writing samples. Enriches the reading materials and assignments of English Composition I with supplementary materials designed to challenge the advanced student.

### **ENG 132: ENGLISH COMPOSITION II – HONORS . . . . .3 CREDITS**

*Prerequisite: ENG 131 or ENG 111 and permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

A continuation of English Composition I-Honors designed to challenge the advanced student. The course will emphasize expository prose and introduce students to short story, poetry and drama and is a continuation of expository writing techniques introduced in English Composition I – Honors. Designed to give the advanced student experience in analyzing perceptively and writing critically about three literary genres: short story, poetry, and drama.

### **ENG 206: AFRICAN AND AFRICAN – AMERICAN LITERATURE . . . . .3 CREDITS**

*Prerequisite: ENG 112 or ENG 132*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

This course is intended to acquaint the student with the general themes of African and African American writers through a broad sampling of fiction, poetry and drama.

### **ENG 214: WOMEN IN FILM . . . . .3 CREDITS**

*Prerequisites: ENG 111, 112 or ENG 131, 132 or permission of instructor*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

Films of technical and literary merit dating from c. 1913 to the present are examined for the diverse images of women which they convey. Issues of class, race, ethnicity, global perspective and sexual preference are considered. Films by women directors and writers are emphasized, but coverage also includes works by significant male filmmakers. Genres range from classical Hollywood narrative fiction to documentary, animation, and avant-garde.

### **ENG 221: SCIENCE FICTION . . . . .3 CREDITS**

*Prerequisite: ENG 111, 112 or ENG 131, 132*

*LEC 3 hrs., LAB 0 hrs.*

This course provides a comprehensive survey of the development of science fiction with special attention given to the “new wave” of science fiction authors. Authors to be discussed may include Asimov, Bradbury, Clarke, Heinlein, LeGuin, Vonnegut and Wells.

### **ENG 224: WOMEN IN LITERATURE . . . . .3 CREDITS**

*Prerequisites: ENG 111, 112 or ENG 131, 132 or permission of instructor.*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

Classic and contemporary literary works are examined for the images of women which they convey. Discussion focuses on relationships between such images and the realities of women’s lives, past and present, in the United States and abroad. Issues of class, race, ethnicity, global perspective, and sexual preference are considered in relationship to gender. Both male and female authors may be studied. Some film adaptations may be examined for comparisons with written works.

### **ENG 228: LITERATURE OF THE THEATRE . . .3 CREDITS**

*Prerequisite: ENG 112 or ENG 132*

*LEC 3 hrs., LAB 0 hrs.*

Designed to give students a broad range of experience in “seeing” dramatic literature, not only through the reading and interpretation of plays, but also through the analysis of directors who have transferred plays from the abstract page to actual theatre production.

### **ENG 233: HISTORY OF THE THEATRE I . . . .3 CREDITS**

*Corequisite: ENG 112 or ENG 132*

*LEC 3 hrs., LAB 0 hrs.*

This course presents a historical survey of the major developments in the theatre from ancient Egypt, Greece and Rome, through the time of Shakespeare. Students will become aware of the major developments in all areas of the theatre: acting, directing, design and theatre architecture.

### **ENG 234: HISTORY OF THE THEATRE II . . . .3 CREDITS**

*Prerequisites: ENG 112 or ENG 132 and ENG 233*

*LEC 3 hrs., LAB 0 hrs.*

This course presents a historical survey of the major developments in the theatre from the time of Shakespeare to the present day. Each historical period will also include study of the major dramatists and their works.

### **ENG 243: WORLD LITERARY TRADITIONS: BEGINNINGS TO 1650. . . . .3 CREDITS**

*Prerequisites: ENG 111, 112, or ENG 131, 132*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

A comprehensive survey of Western and non-Western literature from the ancient world to 1650. Among genres emphasized are epic, lyric and drama. Representative works from Europe, China, India, Japan, and Africa are included.

**ENG 244: WORLD LITERARY TRADITIONS  
1650 TO PRESENT. . . . .3 CREDITS**

*Prerequisites:* ENG 111, 112 or ENG 131, 132

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

A comprehensive survey of Western and non-Western literature from 1650 to the present. Representative works from Europe, China, India, Japan, and Africa are included. Major authors may include Moliere, Flaubert, Dostoevsky, Tolstoy, Tagore, and Achebe.

**ENG 246: ENGLISH CLASSICS FROM "BEOWULF" TO  
"PARADISE LOST:" A SURVEY OF DRAMA,  
ROMANCES AND EPICS. . . . .3 CREDITS**

*Prerequisites:* ENG 111, 112, or ENG 131, 132

*LEC 3 hrs., LAB 0 hrs.*

A chronological overview of England's early literary works by selected writers such as Chaucer, Spencer, Shakespeare, Marlowe and Milton.

**ENG 247: ROMANTICS, VICTORIANS AND MODERNS –  
MAJOR BRITISH WRITERS OF THE  
19TH AND 20TH CENTURIES . . . .3 CREDITS**

*Prerequisites:* ENG 111, 112 or ENG 131, 132

*LEC 3 hrs., LAB 0 hrs.*

A survey of the Romantic, Victorian, and Modern periods of British literature, and a study of the growth of the novel. Major writers may include Blake, Wordsworth, Coleridge, Keats, E. Bronte, Browning, Arnold, Tennyson, Hardy, Lawrence, Yeats, Eliot, and Joyce.

**ENG 249: AMERICAN LITERATURE FROM THE  
COLONIAL ERA TO THE CIVIL WAR. 3 CREDITS**

*Prerequisites:* ENG 111, 112, or ENG 131, 132

*LEC 3 hrs., LAB 0 hrs.*

A survey of American literature from colonial beginnings to the Civil War, including but not restricted to Franklin, Cooper, Poe, Hawthorne, Melville, Emerson, Thoreau and Whitman. The influence of women, Native Americans, African Americans and others who contributed to the development of American culture may be examined as well as concepts such as Calvinism, Neo-classicism, and Romanticism.

**ENG 250: AMERICAN LITERATURE  
FROM THE CIVIL WAR TO  
THE TWENTIETH CENTURY. . . . .3 CREDITS**

*Prerequisites:* ENG 111, 112 or ENG 131, 132

*LEC 3 hrs., LAB 0 hrs.*

A survey of literature written in America since 1865, including but not restricted to such writers as Dickinson, Twain, James, Wharton, Crane, Chopin, Eliot, Frost, Cather, Hemingway, Fitzgerald and Faulkner. The influence of women, African Americans, immigrants and others may be discussed along with cultural concepts such as Realism and Naturalism.

**ENG 283: WORLD LITERARY TRADITIONS:  
BEGINNINGS TO 1650 – HONORS. .3 CREDITS**

*Prerequisites:* ENG 131, 132 or ENG 111, 112 and permission of honors coordinator or department

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

This course is the first part of a survey of world literature that focuses on classics from various cultures including Greek, Roman, Hebrew, Babylonian, Chinese, Persian, Japanese and European. Readings are intended to stimulate class discussions and thoughtful written assignments.

**ENG 284: WORLD LITERARY TRADITIONS:  
1650 TO PRESENT – HONORS . . . 3 CREDITS**

*Prerequisites:* ENG 131, 132 or ENG 111, 112 and permission of honors coordinator or department

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

This course is the second part of a survey of world literature that considers the major literary periods as reflected in classics of Western culture as well as African, Asian, and Middle Eastern traditions. Attention is also given to racial issues. Readings are intended to stimulate both oral and written responses.

**ENG 291, 292: SPECIAL TOPICS IN ENGLISH . 3 CREDITS**

*Prerequisite:* An introductory course in English

*LEC 3 hrs., LAB 0 hrs.*

An examination of selected topics or issues in English. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## English for Speakers of Other Languages

**ESL 010: ESL READING I. . . . . N4 CREDITS**

*Prerequisite:* Appropriate test scores

*LEC 4 hrs., LAB 0 hrs.*

This course develops basic reading skills. The texts examined introduce students to aspects of American culture with an emphasis on student life. Students are expected to express personal opinions and reactions and to develop academic vocabulary.

**ESL 017: ESL WRITING I . . . . . N8 CREDITS**

*Prerequisite:* Appropriate test scores

*LEC 8 hrs., LAB 0 hrs.*

This course introduces students to the basic knowledge of sentence structure, vocabulary, and the American English writing system. Listening comprehension, speaking, reading and writing are reinforced and practiced. Written communication is practiced in various contexts.

**ESL 019: ESL READING II . . . . . N4 CREDITS**

*Prerequisite: ESL 010 or appropriate test scores*

*LEC 4 hrs., LAB 0 hrs.*

This course furthers the skills introduced in ESL Reading I. The course readings enhance cultural awareness and prepare the students to contend with college-level texts. Students also expand their academic vocabulary.

**ESL 020: ESL WRITING II. . . . . N8 CREDITS**

*Prerequisite: ESL 017 or appropriate test scores*

*LEC 8 hrs., LAB 0 hrs.*

This course is for students who have completed ESL Writing I or have appropriate test scores. It is designed for students who already have acquired the basic knowledge of English syntax and grammar. The course provides student with the knowledge to produce more complex sentence structure and coherent paragraphs. Students are introduced to the essay format.

**ESL 021: CONVERSATIONAL ENGLISH. . . N3 CREDITS**

*Prerequisite: Appropriate test scores*

*LEC 3 hrs., LAB 0 hrs.*

This course provides the basis for effective verbal communication and raises the cultural awareness of international students. Attention to American English pronunciation and problem solving prepare students for participation in the college classroom.

**ESL 022: ADVANCED  
CONVERSATIONAL ENGLISH. . . N3 CREDITS**

*Prerequisite: ESL 021, 017, 010 or appropriate test scores*

*LEC 3 hrs., LAB 0 hrs.*

Extensive listening and speaking exercises present real-life academic situations. Grammar and idioms which focus on classroom communication are sequentially introduced. Emphasis is placed on American English pronunciation.

**ESL 033: ESL WRITING III . . . . . N6 CREDITS**

*Prerequisite: ESL 020 or appropriate test scores*

*LEC 6 hrs., LAB 0 hrs.*

This course advances student knowledge of the comprehensive essay by focusing on narrative and descriptive rhetorical modes. It refines linguistic accuracy in written communication through an intensive review of grammar, punctuation, and sentence structure.

**ESL 040: ESL WRITING REVIEW. . . . . N1 CREDIT**

*Prerequisites: ESL 033 and permission of the department chairperson*

*LEC 1 hr.; LAB 0 hrs.*

This is an intensive basic skills course for ESL 033 students who did not pass the essay exit test. The course focuses on problematic areas of English language usage and helps students to remedy deficiencies in these areas. Students are placed in this course upon recommendation of the ESL 033 instructor and with permission of the department chairperson. Promotion to ESL 040 is based on diligence and excellent coursework.

**Fire Science Technology**

*(This is a joint regional program with Passaic County Community College)*

*NOTE: Computer usage and Internet access may be required in the following courses.*

**FST 101: INTRODUCTION TO FIRE SCIENCE .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This class is considered to be the foundation course for all students of fire science technology. Students will be introduced to the concept of the systems approach to fire protection by presenting the components of modern fire department responsibility including emergency incident management, public education, training, resource management, and customer service. Students who have completed their Fire Fighter 1 will receive credit for this course.

**FST 102: FIRE PREVENTION  
AND RELATED CODES . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course provides students with basic knowledge of federal, state, and local codes related to building construction, fire and life safety requirements, and other codes. Includes New Jersey state fire safety regulations and related state requirements. National Fire Protection Association (NFPA) and other standards related to fire protection and life safety are examined. Students who have completed their Fire Fighter 1 will receive credit for this course.

**FST 103: FIRE FIGHTING TACTICS  
AND STRATEGY . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

Analysis of the basic rules of fire fighting strategy, defining engine company responsibilities, defining ladder company functions, correlating mutual aid fires, and general fire problems. Studies the effective management of suppression forces at various fire situations. Includes consideration of pre-fire planning, problem identification, and solution implementation.

**FST 106: FIRE PROTECTION SYSTEMS. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

A study of the nature of public and private fire protection with an emphasis on analysis of systems of fire detection, fire alarm, fire communications, water distribution networks, fire service, hydraulics, and fire suppression.

**FST 107: FIRE APPARATUS, SPECIFICATIONS,  
INSPECTIONS, & MAINTENANCE. . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course covers the principles of care, maintenance, and operation of fire apparatus and pumps. Includes pump construction and accessories, pumping techniques, power development, and transmission. Also includes driving, troubleshooting, and producing effective fire streams.



**FST 201: FIRE SERVICE MANAGEMENT . . . . .3 CREDITS***Prerequisite: FST 101 or equivalent**LEC 3 hrs., LAB 0 hrs.*

This course introduces the student to the principles of personnel management through the use of effective leadership techniques. Topics include overview of the fire service as an organization and the officer's role in it; interpersonal communications; personality typing; skill development; leadership techniques; group dynamics; and principles of fire company management.

**FST 202: HAZARDOUS MATERIALS. . . . .3 CREDITS***Prerequisite: MAT 014 or passing score on the algebra section**LEC 3 hrs., LAB 0 hrs.*

A comprehensive study of the physical, chemical, and toxicological characteristics of hazardous materials. This course includes basic methods of recognition and identification based upon the chemical and physical properties of hazardous materials; basic safety procedures when utilizing specific types of protective clothing and equipment; basic tactical information relating to scene management.

**FST 204: FIRE PROTECTION, BUILDING CONSTRUCTION . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course introduces basic construction principles and the special characteristics of wood and ordinary construction as they concern the fire service. Primary emphasis is on improving the fire officer's ability to ensure firefighter safety by recognizing common causes and indicators of failure and other hazards relating to building construction. Course material enables the fire officer to better predict the overall reaction of a building to fire conditions.

**FST 205: FIRE INVESTIGATION . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

An in-depth course that defines successful methods for conducting fire investigations. Specific topics include basic chemistry of fire, point of origin, fire cause (both accidental and incendiary), motivation of the firesetter, fire scene investigations, evidence collection, photography, follow-up investigation, and court testimony.

**FST 206: FIRE HYDRAULICS. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**Prerequisite: MAT 014, or passing score on the algebra section*

This course is a concentrated study in the application of mathematics and physics to the properties of water as used in fire suppression operations. Classic hydraulics formulas are used to solve problems for flow velocity, nozzle reaction, friction loss, water distribution systems, fire flow testing, fire service pumps, and fire ground hose evolutions.

**FST 207: EMERGENCY MEDICAL TECHNICIAN . . . . .6 CREDITS***LEC 4 hrs., LAB 4 hrs.*

This course is designed to prepare the basic Emergency Medical Technician in accordance with the United States Department of Transportation curriculum and the New Jersey Department of Health guidelines. This course covers an introductory survey of emergency medical services including medical, legal/ethical

aspects, role of the Emergency Medical Technician, patient assessment, care of wounds and fractures, airway maintenance, medical and environmental emergencies, patient transportation, emergency childbirth, and basic extrication. After completion of this course, the student will be eligible to take the National Registry Examination for certification as an Emergency Medical Technician-Basic. Students who are already registered EMT-Basic in NJ will be given credit for this course.

**FST 210: CURRENT ISSUES IN FIRE SCIENCE/ CAPSTONE EXPERIENCE . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**Prerequisite: Completion of 40 credit hours in the Fire Science curriculum or Department permission.*

A review of the current problems affecting the fire service with particular emphasis on resource allocation, planning, and fiscal constraints. The Capstone Experience will require the student to author and present a scholarly research paper on a topic covered in this course.

**Graphic Design**

*Note: Students must purchase some supplies for Graphic Design courses with laboratories.*

**GRD 110: HISTORY OF GRAPHIC DESIGN . . .3 CREDITS***Prerequisite: ENG 025 or equivalent**LEC 3 hrs., LAB 0 hrs.*

This is a lecture course that provides an overview of major graphic design movements and design styles. The focus is on important design innovations and breakthrough technologies. The student is introduced to graphic design masters and masterpieces and is familiarized with major design studios and advertising agencies. A classic foundational textbook is required reading which is supported by slide presentations, videos, websites, and trade articles.

**GRD 111: INTRODUCTION TO COMPUTER GRAPHICS . . . . .3 CREDITS***Prerequisites: ART 122, ART 130**LEC 2 hrs., LAB 3 hrs., Course fee \$75*

Instruction focuses on the use of the computer as a visual tool and the emphasis is on creative visual input. An overview of various graphic software programs including paint, draw, and page layout applications support the creation of two dimensional design projects as it applies to printed material.

**GRD 116: ELECTRONIC PREPRESS . . . . .3 CREDITS**

*Prerequisites:* ART 122, ART 130, GRD 111, GRD 118

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

This course provides the student with the basic vocabulary and fundamental understanding of the techniques and processes involved in both traditional mechanical layout and the contemporary counterpart of electronic prepress preparation for printed material. Students manipulate the elements of typography, photography, illustration, and text to create camera-ready art and electronically ready art and finished traditional and electronic mechanicals. Field trips to a printing facility and/or service bureau may be included.

**GRD 118: TYPOGRAPHY I . . . . .3 CREDITS**

*Prerequisites:* ART 122, ART 130

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

Emphasis is based on developing a typographic vocabulary, identifying and recognizing type fonts and exploring type as design elements. Students engage in the skills of hand lettering and compositional layout while addressing letter proportion, anatomy, structure and typographic space. Communication problems emphasize typography as the primary design focus.

**GRD 120: GRAPHIC DESIGN I . . . . .3 CREDITS**

*Prerequisites:* ART 122, ART 130

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

This course introduces professional creative problem-solving in graphic design. Emphasis is based on the fundamentals of critical thinking, the critique process and effectively integrating concepts with the principles of design. Students engage in visual research, thumbnail sketching and refining rough process sketches by hand. The use of art and design to meet the communication needs of business and industry are explored.

**GRD 215: COMMERCIAL ILLUSTRATION . . . . .3 CREDITS**

*Prerequisites:* ART 122, ART 130

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

This course will combine studio approaches and illustration techniques with an emphasis on communication, visual interpretation, and the integration of illustration with typography. Students execute product renderings, editorial illustrations and illustrations for newspapers, magazines and books. Proper use of reference material is emphasized and the development of the working sketch is explored as the foundation of the finished illustration. Emphasis is on conceptual thought, non-verbal communication and drawing techniques for reproduction.

**GRD 218: TYPOGRAPHY II . . . . .3 CREDITS**

*Prerequisites:* GRD 111, GRD 118, GRD 120

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

A continuation of Typography I with a concentration on creating type design solutions using the computer. Emphasis on applying the rules of typography, using graphic software effectively, exploring visual hierarchy and engaging in interpretive typography to develop the typographic message.

**GRD 220: GRAPHIC DESIGN II . . . . .3 CREDITS**

*Prerequisites:* GRD 111, GRD 118, GRD 120

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

A continuation of Graphic Design I with an exploration of more advanced design problem solving and the development of design aesthetics. Emphasis is placed on the use of art and design as selling tools. Magazines and newspaper ads, products that are currently advertised and package design are examined and field trips to art departments, studios, and agencies may be included.

**GRD 227: PORTFOLIO PROJECT . . . . .3 CREDITS**

*Prerequisites:* Scheduled during the student's last semester in the Graphic Design Degree program and permission of the program coordinator.

*LEC 2 hrs., LAB 3 hrs.*

This course is an examination and application of a variety of methods for assembling and presenting graphic art and design in a professional manner. This course will focus on portfolio preparation, presentation, and interview procedures. Formal and informal critiques will assist the student in defining strengths and career goals.

**GRD 229: COOPERATIVE WORK EXPERIENCE –  
RELATED CLASS . . . . .1 CREDIT**

*Prerequisites:* GRD 111, GRD 116, GRD 118, GRD 120, GRD 220 and permission.

*Corequisite:* GRD 232

*LEC 1 hrs., LAB 0 hrs.*

A related class designed to supplement work experience. Weekly meetings include readings, discussions, written assignments and critical analysis of the work experience.

**GRD 230: COMPUTER ASSISTED  
ILLUSTRATION . . . . .3 CREDITS**

*Prerequisites:* GRD 111, GRD 118, GRD 120

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

A continuation of the study of Commercial Illustration techniques with the integration of typography. Students explore computer color illustration and image manipulation, work with scanned photography, digitized illustrations, laser and inkjet prints. Students execute product and editorial illustrations with an emphasis on combining fine art and graphic art processes to create sophisticated portfolio projects.

**GRD 232: GRAPHIC DESIGN INTERNSHIP COOPERATIVE  
WORK EXPERIENCE. . . . .3 CREDITS**

*Prerequisites:* GRD 111, GRD 116, GRD 118, GRD 120, GRD 220, GRD 240

*A minimum 2.5 grade point average and portfolio review with permission by designated graphic design faculty.*

*Corequisite:* GRD 229, Work Experience Related Class

Practical work experience within the realm of graphic design and advertising. Students perform work for cooperating employers in advertising agencies, graphic design studios or corporate art departments. Practical work experience may include design assignments at printing facilities or other communication-based businesses.

## **GRD 240: COMPUTER ASSISTED PAGE AND COVER DESIGN. . . . .3 CREDITS**

*Prerequisites: Approval of the Coordinator of Graphic Design*

*LEC 2 hrs., LAB 3 hrs., Course fee \$75*

This is an intermediate Lecture/Studio course designed to further develop skills in publication design with the goal of designing the Promethean Literary and Arts magazine. In the professional environment of a publication design studio format, students work as a creative team of editors, designers and proofreaders to develop The Promethean from concept to final production, under a specialist's supervision. Lecture topics will include organizational planning, purpose, content, typeface selection, illustration/photography, paper stock, bindings, covers, and management skills. Utilizing current industry software, students have the opportunity to design and produce a finished professional in-house publication for the college and their portfolio. Graphic design issues, historical, cultural and technical, will be addressed.

## **GRD 250: BROCHURE AND MAGAZINE DESIGN. . . . .3 CREDITS**

*Prerequisites: GRD 111, GRD 118, GRD 120*

*LEC 1 hr., LAB 4 hrs., Course Fee \$75*

This course trains the person familiar with traditional layout procedures. It stresses transferring manual board skills to the electronic screen. Brochures, magazines, web pages, newspaper pages and a variety of other print materials are practiced. This course examines theory, styles, trends, and the mechanics of cover and page design to create portfolio projects.

## **GRD 255: ADVERTISING DESIGN. . . . .3 CREDITS**

*Prerequisites: GRD 111, GRD 118, GRD 120 and permission of program coordinator required.*

*LEC 1 hr., LAB 4 hrs., Course Fee \$75*

This course is designed to further develop "hands-on" skills in concept and design with the goal of creating an advertising campaign. In the professional environment of an ad agency format, students work as a creative team of art director and writer to research and develop the ad, radio and TV commercial from concept to final production, under a specialist's supervision. Lecture topics include organizational planning, purpose, content, casting production techniques, illustration/photography supervision, as well as management skills, all stressed while the creative execution of the advertising takes place. Assignments will consist of print ads, TV commercials, sales promotion, packaging, posters, billboards, and web design. Utilizing current standard industry principles, students have the opportunity to design and produce a finished professional product for their portfolio. Advertising issues, historical, cultural and technical, will be addressed. A tour of a Manhattan ad agency might be included.

## **GRD 291, 292: SPECIAL TOPICS IN GRAPHIC DESIGN. . . . .3 CREDITS**

*Prerequisite: A selected course in Graphic Design.*

*LEC 2 hrs., LAB 3 hrs. Course Fee: \$50*

An examination of selected topics or issues in Graphic Design. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## **Health and Wellness Exercise Science**

*Note: Many curricula require HED 128 Lifetime Wellness (2 credits) for graduation. HED 286 Personal Health and Wellness (3 credits) will substitute for HED 128 in these curricula. Other curricula require HED 286 Personal Health and Wellness (3 credits) for graduation. HED 128 will not substitute for HED 286 in these curricula. In all other curricula, the health and wellness requirement may be fulfilled by taking 2 to 3 credits in any combination of Health Education (HED) courses, and/or any one-credit Exercise Science (HES) courses, and/or one-credit or two-credit first level dance (DAN) courses.*

## **HES 105: INTRODUCTION TO PERSONAL TRAINING. . . . .3 CREDITS**

*Prerequisite: Open to Personal Trainer Career Certificate (curriculum 0950) students only.*

*LEC 3 hrs., Lab 0 hrs., Course fee \$25*

This is a comprehensive class is ideal for anyone preparing for the ACSM, NASM, or ACE Personal Trainer exam and those who want to pursue a career in personal training. Course content includes anatomy, applied exercise science, kinesiology, client assessments, exercise program design and implementation, professional roles and responsibilities.

## **HES 106: PERSONAL TRAINER FIELD EXPERIENCE. . . . .1 CREDIT**

*Prerequisite: HES 105*

*Open to Personal Trainer Career Certificate (curriculum 0950) students only*

*LEC 0 hr., Lab 1 hr.,*

This course provides the Personal Trainer career certificate student with the opportunity to work with clients in the field. Students will be linked with professionals in health clubs and commercial and corporate fitness centers who will mentor their progress. Arrangements for this field experience must be coordinated through the field experience instructor. The student must accomplish a minimum of 40 hours in one semester in their field experience and write a report of the experience.

## **HES 111: INTRODUCTION TO EXERCISE SCIENCE. . . . .3 CREDITS**

*Prerequisite: Open to Exercise Science (curriculum 2960) majors only*

*LEC 3 hrs., LAB 0 hrs., Course fee \$25*

This is an introductory course to acquaint the student with the development and structure of the field of exercise science. The current scientific development of the field is stressed, with emphasis on basic exercise physiology, health, and fitness. There is a 20-hour internship requirement for this course.

## **HES 121: AEROBIC EXERCISE. . . . .1 CREDIT**

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course provides the student with the underlying principles of cardiovascular fitness and an opportunity to participate in aerobic activities designed to improve cardiovascular fitness, firm muscles, reduce fat, and cope with stress.

**HES 125: STRETCHING & STRENGTHENING . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course provides a thorough presentation of exercises for improving strength and flexibility without the need for special equipment. Emphasis is on exercising safely and learning the importance of strength and flexibility in conditioning, injury prevention, and rehabilitation. It is designed to give students the tools with which to create a personal exercise program. Students need to supply their own exercise mat.

**HES 126: PERSONAL FITNESS. . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

Students design and practice an exercise program that develops selected components of physical fitness. Each student will undertake assessments of various components of fitness.

**HES 127: WEIGHT TRAINING . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

Basic principles of resistance (weight) training will be taught, emphasizing training for general conditioning. Training programs for major muscle groups will be developed and practiced. Equipment to be used includes free weights and some machines.

**HES 128: YOGA . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This is an introductory course in yoga covering basic hatha yoga postures and exercises. Breathing techniques, flexibility, and muscular endurance will be enhanced. The course will help relieve stress and develop a sense of peacefulness and tranquility while improving fitness. Students need to supply their own exercise mat.

**HES 129: SELF-DEFENSE . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course provides students with the knowledge and skills to judge potential threats and react swiftly to defend themselves. Social and psychological effects of violence are discussed, along with legal issues of self defense. The basic techniques of Tae Kwon-Do, Jui-Jitsu, and Aikido are introduced for everyday usage. A martial arts attitude is developed.

**HES 130: TAI CHI . . . . . 1 CREDIT***LEC 0 hrs., LAB. 2 hrs., Course fee \$15*

Tai Chi is a low-impact form of oriental exercise that increases energy, balance, and overall health. Total mind-body interaction is emphasized. This course is a gentle means to contribute to overall health and fitness.

**HES 131: PILATES . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

Pilates is a form of exercise that conditions the muscles through specific strength exercises without creating bulk. Based on the system introduced by Joseph Pilates over 70 years ago, exercises are done on both the mat and machines. Emphasis is on the core strength and flexibility of the abdomen and back, as well as other major body areas. Pilates is an exercise system that also concentrates on mind-body connection and correct postural alignment to gain optimal health and fitness. Students need to supply their own exercise mat.

**HES 141: PERSONAL CHALLENGE I . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$45*

This activity course focuses on the importance of reaching beyond the individual and utilizing group resources to solve problems through trust, teamwork, communications, self-esteem building, group problem-solving skills, decision making and fun. Students will execute safely a series of adventure activities involving wall climbing, rope hanging, game playing, and cable walking in order to enable the group to cross real and imaginary boundaries. All activities are individualized so that any student may successfully participate. Taught off-campus.

**HES 143: BASIC CANOEING . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$100*

*Prerequisite: This course is limited only to those who can demonstrate they can float and swim in deep water.*

This is a beginner-level course intended primarily for individuals interested in learning the fundamentals of canoeing on flat and moving water. Students learn how to paddle a canoe using a variety of strokes and gain general canoe knowledge, including safety and rescue.

**HES 161: AQUATIC FITNESS . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This is an exercise course in the pool designed for the student who wants an alternative to land exercise. The course provides the skills and knowledge to develop an overall aquatic workout to suit individual needs, especially for those who may require non-weight-bearing exercise.

**HES 162: BASIC SWIMMING . . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is designed for the non-swimmer or beginner swimmer who has had little or no instructional experience and who may feel uncomfortable in the water. Through this course one will gain basic swimming and diving skills progressing from shallow to deep-water swimming. The National American Red Cross Swimming Levels I-III will be covered.

**HES 163: INTERMEDIATE SWIMMING . . . . . 1 CREDIT**

*Prerequisite: HES 162 or permission of the department chairperson.*

*LEC 0 hrs., LAB 2 hrs., Course fee \$15*

This course is designed to develop the student's confidence in swimming performance, to increase endurance using a variety of swimming strokes, to introduce new turns and strokes (breast and side), and to improve other aquatic and safety skills. The National American Red Cross Swimming Levels IV and V will be covered. (This course is not for beginner swimmers.)

**HES 182: GOLF I. . . . . 1 CREDIT***LEC 0 hrs., LAB 2 hrs.*

A beginner's study and practice of the fundamental skills and basic rules of the game of golf. Topics include the make-up of the course, the grip, swing and stance, the equipment and the rules. A portion of the course will be held off campus at local golf facilities.



**HES 183: GOLF II ..... 1 CREDIT***LEC 0 hrs., LAB 2 hrs.**Prerequisite: HES 182 or Dept. Chairperson Permission required*

A study and practice of intermediate and advanced skills utilized in the game of golf. Topics include, but are not limited to, course management, playing from difficult lies, fading and drawing the ball, advanced chipping and pitching, putting, and the mental game. A portion of the course will be held off campus at local golf facilities.

**HES 184: TENNIS ..... 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

An introductory course which covers the basic strokes, strategy, and rules of the game of tennis. Emphasis is placed on the instruction, practice and utilization of skills and rules in actual match situations. (Students must supply their own tennis rackets and balls.)

**HES 186: BADMINTON ..... 1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$15*

A beginning course which introduces the student to the basic strokes, rules and fundamental strategies of the game of badminton. Emphasis is placed on the utilization of newly acquired skills in game situations.

**HES 187: VOLLEYBALL ..... 1 CREDIT***LEC 0 hrs., LAB 2 hrs.*

This course develops techniques, skills and strategies of volleyball. Emphasis is on the development of the basic skills essential for success and enjoyment.

**HES 211: KINESIOLOGY ..... 3 CREDITS***Prerequisite: BIO 101.**LEC 2 hrs., LAB 3 hrs., Course fee \$50*

This course emphasizes the analysis of the principles of movement through human anatomical design. Major joints of the bodies, their actions, and muscles that do those actions are stressed. Application to physical exercise will be stressed in lab work on strength, endurance and potential motion of major joints. This course is taught as a partial online course. Computer competency is required.

**HES 212: EXERCISE PHYSIOLOGY ..... 3 CREDITS***Prerequisite: BIO 101 and BIO 102**LEC 2hrs. LAB 3 hrs., Course fee \$50*

This course includes the study of human responses and adaptations to exercise of varying levels of stress and intensity. Major topics include bioenergetics, the physiology of the circulatory, respiratory, muscular and nervous systems as they apply to exercise, and the underlying physiological basis of fitness. Laboratory experiences will illustrate practical application of theoretical content, with hands-on experiences to measure and apply what is learned in the lecture component of the course.

**HES 213: EXERCISE MEASUREMENT AND PRESCRIPTION ..... 3 CREDITS***Prerequisite: HES 212 with a grade of C or better**LEC 2 hrs., LAB 3 hrs., Course fee \$75*

This course will stress the appropriate measurement of various aspects of human exercise. Measurement of body composition, car-

diovascular efficiency, muscular strength and endurance and other physiological parameters will be taught and practiced. Students will learn how to develop individualized and properly designed exercise prescriptions for adults, including special populations.

**HES 291/292: SPECIAL TOPICS  
IN EXERCISE SCIENCE ..... 1 CREDIT***Prerequisite: An introductory course in Exercise Science**LEC 0 hrs., LAB 2 hrs.*

An examination of selected topics or issues in Exercise Science. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

**Health Education**

*Note: Many curricula require HED 128 Lifetime Wellness (2 credits) for graduation. HED 286 Personal Health and Wellness (3 credits) will substitute for HED 128 in these curricula. Other curricula require HED 286 Personal Health and Wellness (3 credits) for graduation. HED 128 will not substitute for HED 286 in these curricula. In all other curricula, the health and wellness requirement may be fulfilled by taking 2 to 3 credits in any combination of Health Education (HED) courses, and/or any one-credit Exercise Science (HES) courses, and/or one-credit or two-credit first-level dance (DAN) courses.*

**HED 112: DRUGS, SOCIETY AND  
HUMAN BEHAVIOR ..... 3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$25*

This course examines the effects drugs have on the individual and society, taking a critical look at the most recent scientific data drawn from medical, sociological, and student research. Topics include but are not limited to neurophysiology, pharmacology, and the demographics of drug use, legal issues, and treatment and prevention programs. Different types of drugs will be examined.

**HED 115: PERSONAL AND  
FAMILY NUTRITION ..... 3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$25*

In this course the student will study the relationships of nutrition and eating patterns to one's health, nutritive value and composition of foods, metabolism, functions and requirements of nutrients throughout life, and essentials of an adequate diet. Emphasis is placed on the practical application of nutrition concepts in everyday life.

**HED 128: LIFETIME WELLNESS ..... 2 CREDITS***LEC 1 hr., LAB 2 hrs., Course fee \$25*

This course is designed to provide the student with the knowledge and skills necessary to make intelligent decisions about health and wellness. Topics include nutrition and weight management, substance abuse, stress management, fitness, cardiovascular disease, and sexually transmitted diseases. Students will engage in personally-selected programs to improve wellness.

**HED 130: MIND-BODY HEALTH .....3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$25*

This course explores the relationship between the mind and the body. Emphasis is placed on relaxation, meditation, tai chi, and yoga to enable the student to reach a state of peace, calmness and self-awareness. Students will explore the integration of the entire self in order to achieve an understanding and an awareness of their own selves and take control of their wellness. Institute of Complementary Medicine Stress Reduction Certificate will be issued upon successful completion of this course.

**HED 131: SMOKING CESSATION .....1 CREDIT***LEC 1 hr., LAB 0 hrs.*

This course will help students break their dependence on tobacco. It uses a wellness approach to establishing a tobacco-free life style. The history of tobacco use, tobacco companies and advertising, health hazards both personal and public, and the medical costs of tobacco use will be covered. Students will learn how to manage stress, control their weight, and break long-established habits without the use of tobacco.

**HED 132: STRESS MANAGEMENT .....1 CREDIT***LEC 1 hr., LAB 0 hrs., Course fee \$15*

This course will provide the student with an understanding of the basic principles of the stress response, the General Adaptation Syndrome, stressors, and stress management. Students will participate in physical and cognitive exercises designed to reduce stress.

**HED 133: WEIGHT MANAGEMENT .....1 CREDIT***LEC 1 hr., LAB 0 hrs.*

This course covers information about lifetime weight management. The role of diet, exercise, behavior modification, and stress management and their relationship to weight management will be emphasized. Students will analyze diets, set goals and apply a weight management program to themselves throughout the course.

**HED 150: PROFESSIONAL LIFEGUARDING ..2 CREDITS**

*Prerequisite: Enrollment is limited to those who are excellent swimmers. A swimming test will be administered during the first week of class to determine if the student possesses the swimming skills necessary to stay in the course.*

*LEC 1 hr., LAB 2 hrs., Course fee \$20*

This course is the American Red Cross Professional Lifeguard Training Program for those who wish to become professional lifeguards. It emphasizes prevention, recognition and treatment of aquatic injuries and drowning, lifeguard skills to effect rapid rescue, and aquatic management. Those who successfully complete all of the components of this course will be eligible to receive the ARC Professional Lifeguarding Certification.

**HED 283: CARDIOPULMONARY RESUSCITATION .....1 CREDIT***LEC 0 hrs., LAB 2 hrs., Course fee \$35*

This course is taught according to American Heart Association (AHA) guidelines. Students will learn about heart disease prevention, early recognition of heart attack and stroke, early access to Emergency Medical Services, and recognition and treatment for respiratory arrest, cardiac arrest, and obstructed airway emergencies. Students who successfully complete the requirements will receive an AHA CPR card (BLS for Healthcare Provider CPR). This course is available through the Division of Corporate and

Community Programs. Students enrolled in the following majors: Nursing, Radiography, Respiratory Therapy, Exercise Science, and Early Childhood Education may request that they receive one credit toward their HED/HES requirement. Students must present a valid American Heart Association CPR card (BLS for Healthcare Provider CPR) to the Office of Records and Registration to receive credit.

*Course fees do not represent income to the AHA or any of its components.*

**HED 286: PERSONAL HEALTH AND WELLNESS .....3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$25*

This course examines current health and wellness topics that have an impact on the individual in today's society. Emphasis is on a wellness approach, examining the physical, emotional, intellectual, social and spiritual dimensions of health. Students will engage in evaluations of their own wellness behaviors and investigate in detail at least one health issue of personal significance. (There is no substitution for this course in programs that require it for degree completion.)

**HED 293/294: SPECIAL TOPICS IN HEALTH EDUCATION ..... 3 CREDITS**

*Prerequisite: A three-credit introductory course in Health Education.*

*LEC 3 hrs., LAB 0 hrs.*

An examination of selected topics or issues in Health Education. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

**HED 295: FIRST AID & EMERGENCY CARE ..3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$25*

A basic course in first aid which acquaints students with information about prevention of accident and injury and about emergency assessment, recognition and treatment of trauma and sudden illnesses. CPR training is included. Upon successful completion of the requirements, the student will receive First Aid certification and an American Heart Association CPR certification.

**History****HIS 113: EARLY MODERN EUROPE .....3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course examines the transition from Medieval to Early Modern Europe. Included in the investigation are the Protestant Reformation and ensuing Catholic Counter-Reformation, and the causes and the consequences of the rise of the modern nation-state and the Enlightenment. It also traces the events precipitating the French Revolution and its aftermath.

**HIS 114: MODERN EUROPE .....3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course surveys Europe since the French Revolution, including the nationalistic, liberal, and socialist revolutions of the 19th and 20th Centuries. It investigates imperialism and the power struggles among Europe's established and newly emerged states culminating in World War I. It also examines the Paris Conference, Europe between the two wars, and the rise of European fascism, communism, World War II and its aftermath.

**HIS 117: THE ANCIENT WORLD –  
GREECE AND ROME. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course will familiarize the student with the cultural heritage of the ancient civilizations of the Middle East. By the end of this course the student should be able to demonstrate an understanding of the most important political, social, economic and cultural developments of the Mediterranean world. It is the intention of this course to familiarize the students with aspects of the trans-Atlantic history which have brought us to this point in time and to the circumstances in which the world exists today. This will include politics, economics, culture, and religion.

**HIS 118: THE MIDDLE AGES. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course will investigate European development from the fall of the Roman Empire to the collapse of the Byzantium in 1453. The course will include the analysis of key political, social, intellectual and economic experiences in Western Europe.

**HIS 122: HISTORY OF RUSSIA . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

The history of Russia from the Tsars to the present. Major emphasis will be on the unique development of Russian culture during the Tsarist period through the collapse of the Soviet Union and post-Soviet period. Documents that reflect important developments will be included.

**HIS 123: HISTORY OF MODERN AFRICA. . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

This course deals with the history, politics, economics, and culture of Africa from the mid-1880s to the present. It will provide an analysis of colonialism; nationalism and transfer of power; nation building and economic development; and the international relations of African states.

**HIS 147: HISTORY OF MODERN EAST ASIA . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

A survey of modern East Asia including the impact of the West, the modernization of Japan, the origin and growth of the Chinese Communist Party and the Vietnam War.

**HIS 148: MODERN MIDDLE EAST. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

An examination of the historical development of the Middle East with emphasis on the twentieth century. Topics covered will include the development of nationalism, Pan-Arab movements, Muslim fundamentalism, and the Arab-Israeli conflicts.

**HIS 149: HISTORY OF NEW JERSEY . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course will cover the history of the state from colonial times to the present. It will emphasize the lives of ordinary people as well as significant events and will use local history as a way of learning more about American history.

**HIS 151: LATIN AMERICAN HISTORY . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

A survey of the historical development of Latin America focusing on its Native American, Iberian, Asian and Black populations and its emergence as a force in the 20th century. Students will examine original documents in order to analyze the structure of social, economic, and cultural relationships. Special attention will be paid to the development of Argentina, Mexico and the Caribbean nations and their relationship to the United States.

**HIS 160: HISTORY OF COLONIAL  
AND REVOLUTIONARY AMERICA. . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course surveys the origins and development of the English colonies in America, from the earliest settlements through the Revolution and the Constitutional Convention of 1787. Major topics explored will include population growth, territorial expansion, colonial ideas and institutions, the development of English imperial policy and America's break with England.

**HIS 164: CIVIL WAR AND RECONSTRUCTION . 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course examines slavery and the other issues and events leading to the Civil War. Attention is focused on the political, economic, social and cultural developments of the era as well as on the war and the Reconstruction period.

**HIS 166: EMERGENCE OF AMERICA –  
U.S. HISTORY I . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course will examine the first half of American History from the earliest settlements to the end of the 19th century with an emphasis on American expansion and settlement of the Continent and on America's frontier heritage.

**HIS 167: TWENTIETH CENTURY AMERICAN HISTORY –  
U.S. HISTORY II . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course surveys the domestic history and foreign policy of the United States in the 20th century. The nation's immigrant experience, political development, urbanization, economic progress and emergence as a superpower are among the topics to be explored.

**HIS 180: THE ANCIENT WORLD – HONORS . .3 CREDITS***Prerequisite: Permission of honors coordinator or department**LEC 3 hrs., LAB 0 hrs.*

This course is a study of the ancient civilizations of the Middle East and the Mediterranean. The course provides an analysis of political, intellectual, economic, and religious developments, and also includes the use of primary sources in translation.

**HIS 181: THE MIDDLE AGES – HONORS . . . .3 CREDITS***Prerequisite: Permission of honors coordinator or department**LEC 3 hrs., LAB 0 hrs.*

This course will allow students to investigate major events, as well as significant economic, social and political developments in both

Western Europe and non-Western countries. Participants will have the opportunity to read and examine primary sources in translation and scholarly monographs.

### **HIS 183: MODERN SOCIAL THOUGHT – HONORS. . . . .3 CREDITS**

*Prerequisite: Permission of honors coordinator or department*  
**LEC 3 hrs., LAB 0 hrs.**

Covers selected topics in the period from the 17th century through contemporary time. Readings of representative social science thinkers shall be related to their historical context so that students gain an appreciation of the casual reciprocity which exists among theory, practice, and culture.

### **HIS 203: HISTORY OF MINORITIES IN U.S. . . .3 CREDITS**

**LEC 3 hrs., LAB 0 hrs.**  
*This course satisfies the Diversity/Global Perspective requirement.*

An historical survey of major ethnic and racial minorities in the United States and the development of cultural pluralism. Emphasis is on the period since the Civil War, with attention to the role played by the various minorities in the nation's economic, political and cultural development and the status of these minority groups.

### **HIS 204: HISTORY OF THE AFRICAN-AMERICAN EXPERIENCE. . . . .3 CREDITS**

**LEC 3 hrs., LAB 0 hrs.**  
*This course satisfies the Diversity/Global Perspective requirement.*

A survey of African Americans from their African origins to the present. Emphasis will be on the historical importance of the slavery experience, the black in the Civil War and Reconstruction era, and the development of segregation. Special attention will be given to 20th century black contributions to American life and thought, black leadership issues and movements relevant to the black experience.

### **HIS 209: HISTORY OF AMERICAN WOMEN. . .3 CREDITS**

**LEC 3 hrs., LAB 0 hrs.**  
*This course satisfies the Diversity/Global Perspective requirement.*

This course examines American women's experience from the colonial era through the contemporary feminist movement, including study of such key topics as the first women's movement, the suffrage and birth control movements, and concludes with understanding the conflicts and accomplishments inherent in women's status today.

### **HIS 210: HISTORY OF AMERICAN WOMEN – HONORS. . . . .3 CREDITS**

**LEC 3 hrs., LAB 0 hrs.**  
*This course satisfies the Diversity/Global Perspective requirement.*

This course examines American women's experience from the colonial era through the contemporary feminist movement, including study of such key topics as the first women's movement, the suffrage and birth control movements, and concludes with understanding the conflicts and accomplishments inherent in women's status today. Emphasis is on student presentation of monographs by nationally known scholars, evaluation of competing interpretations of the past and on completion of a primary source research paper.

### **HIS 246: AMERICA'S RISE TO WORLD POWER . . . . .3 CREDITS**

**LEC 3 hrs., LAB 0 hrs.**  
 This course will trace the development of the foreign policy of the United States from the Spanish American War to the present. It will examine the emergence of the United States as a world power while in pursuit of its twin objectives of national security and peace.

### **HIS 247: HISTORY OF THE AMERICAN CITY AND SUBURB . . . . .3 CREDITS**

**LEC 3 hrs., LAB 0 hrs.**  
 A survey of the development of the American city from colonial times to the present, with concentration on the period since the Civil War. The problems facing urban America today and the exodus to the suburbs also are emphasized.

### **HIS 291, 292: SPECIAL TOPICS IN HISTORY. .3 CREDITS**

*Prerequisite: An introductory course in History*  
**LEC 3 hrs., LAB 0 hrs.**  
 An examination of selected topics or issues in history. Topics differ each time the course is offered. Students should consult the department chairperson for further information.

## **Honors**



### **BIO 180: GENERAL BIOLOGY I – HONORS. . .4 CREDITS**

*Prerequisite: Permission of honors coordinator or department*  
**LEC 3 hrs., LAB 0 hrs, Course fee \$40.**

An introduction to the biological sciences through a study of principles and concepts basic to the major discipline of biology. Topics include fundamentals of chemistry, cell structure and function, the nature of biological molecules, energetic synthesis and the morphology and physiology of animals and plants. Dissection is required as part of the laboratory syllabus. Lecture and laboratory will use an investigatory approach to topics and stress both individual and team research into theory, methodology, and experimental design and project completion.

### **BIO 181: GENERAL BIOLOGY II – HONORS . .4 CREDITS**

*Prerequisites: BIO180 or BIO 121 and permission of honors coordinator or department*  
**LEC 3 hrs., LAB 3 hrs., Course fee \$40**

A continuation of General Biology I–Honors. Topics include animal reproduction, development, animal physiology, genetics, ecology and evolution. Dissection is required as part of the laboratory syllabus. Lecture and laboratory will use an investigatory approach to topics and stress both individual and team research into theory, methodology, experimental design and project completion.



### ENG 123: INTRODUCTION TO LINGUISTICS – HONORS .....3 CREDITS

*Prerequisites:* Eng 111 or ENG 131 and permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

Designed for the motivated student, the course examines the fundamental concepts of language structure and dynamics, including language development, variation, and change. Students are required to apply and expand basic theory through independent research and projects that will be presented to the class.

### ENG 131: ENGLISH COMPOSITION I – HONORS.....3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

An advanced course in rhetoric and expository writing for students selected on the basis of academic record, testing, or writing samples. Enriches the reading materials and assignments of English Composition I with supplementary materials designed to challenge the talented student.

### ENG 132: ENGLISH COMPOSITION II – HONORS.....3 CREDITS

*Prerequisite:* ENG 131 or ENG 111 and permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

A continuation of English Composition I-Honors designed to challenge the advanced student. The course will emphasize expository prose and introduce students to short story, poetry, and drama and is a continuation of expository writing techniques introduced in English Composition I-Honors. Designed to give the advanced student experience in analyzing perceptively and writing critically about three literary genres: short story, poetry and drama.

### ENG 283: WORLD LITERARY TRADITIONS: BEGINNING TO 1650 – HONORS SEMINAR . . . 3 CREDITS

*Prerequisites:* ENG 131,132 or ENG 111,112 and permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

This course is the first part of a survey of world literature that focuses on classics from various cultures including the Greek, Roman, Hebrew, Babylonian, Chinese, Persian, Japanese, and European. Readings are intended to stimulate class discussions and thoughtful written assignments.

### ENG 284: WORLD LITERARY TRADITIONS: 1650 TO PRESENT–HONORS SEMINAR .3 CREDITS

*Prerequisites:* ENG 131, 132 or ENG 111, 112 and permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

This course is the second part of a survey of world literature that considers the major literary periods as reflected in classics of Western culture as well as African, Asian, and Middle Eastern traditions. Attention is also given to racial issues. Readings are intended to stimulate both oral and written responses.

### HIS 180: THE ANCIENT WORLD – HONORS . .3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

This course is a study of the ancient civilizations of the Middle East and the Mediterranean to ca. C.E. 500. The course provides an analysis of political, intellectual, economic, and religious developments and also includes the use of primary sources in translation.

### HIS 181: THE MIDDLE AGES – HONORS . . .3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

This course will allow students to investigate major events, as well as significant economic, social, and political developments in both Western Europe and non-Western countries. Participants will have the opportunity to read and examine primary sources in translation and scholarly monographs.

### HIS 210: HISTORY OF AMERICAN WOMEN – HONORS .....3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

This course examines American women's experience from the colonial era through the contemporary feminist movement, including study of such key topics as the first women's movement, the suffrage and birth control movements, and concludes with understanding the conflicts and accomplishments inherent in women's status today. Emphasis is on student presentation of monographs by nationally known scholars, evaluation of competing interpretations of the past and on completion of a primary source research paper.

### MAT 180: STATISTICS – HONORS .....3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

An introduction to the fundamental principles of statistical methods. The course will integrate spreadsheet software to cover such topics as descriptive statistics, correlation, regression, probability, binomial and normal distributions, samples, elementary hypothesis testing, and confidence intervals. Comprehensive case studies will be covered throughout the semester.

### PHL 180: INTRODUCTION TO PHILOSOPHY – HONORS SEMINAR .....3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

This seminar follows, conceptually and historically, dominant lines of philosophical thinking on themes widely taken to be fundamental in Western culture. The course also compares and contrasts classical with contemporary perspectives and Western with Asian perspectives.

### PHL 280: ANCIENT PHILOSOPHY–HONORS. .3 CREDITS

*Prerequisite:* Permission of honors coordinator or department

LEC 3 hrs., LAB 0 hrs.

This seminar critically examines the central ideas of Plato and Aristotle on knowledge, mind, body, freedom, nature, ethics, politics, and religion. The course also contrasts their ideas with

those of other ancient philosophers such as Pythagoras, Heraclitus, Parmenides, Zeno, Epicurus, Epictetus, Cicero, and Aurelius. Students develop the ability to formulate their own views on philosophical issues.

### **PSY 180: GENERAL PSYCHOLOGY – HONORS . . . . . 3 CREDITS**

*Prerequisite: Permission of honors coordinator or department.*

*LEC 3 hrs., LAB 0 hrs.*

The Honors course is a more advanced General Psychology course which includes, but is not restricted to, a more advanced text, emphasis on research methodology, and lectures which explore subject matter in greater depth. The course introduces students to the scientific study of behavior with emphasis on critical thinking skills. Students will improve their abilities to analyze data objectively both in written and oral presentations. The General Psychology Honors section can be used to fulfill the Honors Social Science elective. Admission to the course is based on the recommendation of the Honors Program Coordinator.

### **PSY 215: CHILD PSYCHOLOGY – HONORS . . 3 CREDITS**

*Prerequisites: PSY 113 or PSY 180 and permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

This Honors course will consist of the interplay of biological, psychological, and cultural forces that shape the growing child from prenatal development through adolescence. Students will learn to interpret relevant research using a critical-thinking approach.

### **PSY 281: PSYCHOLOGY OF PERSONALITY – HONORS . . . . . 3 CREDITS**

*Prerequisites: PSY180 or PSY113 and permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

This honors course will consist of a deeper analysis of major personality theories and their application to case studies. Biological as well as social perspectives on the development of the self will be considered. Relevant issues including achievement motivation, power, gender, relationships and health are discussed. Research and clinical examples as well as personal growth exercises will be utilized to promote critical thinking and to facilitate the application of theoretical concepts to the student's everyday life experiences.

### **SOC 180: PRINCIPLES OF SOCIOLOGY – HONORS . . . . . 3 CREDITS**

*Prerequisite: Permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

*Except for the Humanities/Social Science degree program, this course satisfies the Diversity/Global Perspective requirement.*

A systematic introduction to basic sociological concepts—culture, norms, status, role, groups, character structure, association, institutions, community, deviance, and society.

### **SOC 280: CONTEMPORARY SOCIAL ISSUES – HONORS . . . . . 3 CREDITS**

*Prerequisites: SOC 180 or SOC 120 and permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

*Except for the Humanities/Social Science degree program, this course satisfies the Diversity/Global Perspective requirement*

Scientific analysis of major social institutions and major social issues. Problems will include race and ethnic relations, urbanism, and population, as well as fundamental institutional problems of economics, politics, education, and family. Emphasizes social theory and methods of social research.

## **Hospitality Management**

### **HOS 101: INTRODUCTION TO FOOD . . . . . 3 CREDITS**

*LEC 2 hrs. LAB 2 hrs. LAB FEE \$60*

The modern kitchen offers a multitude of opportunities to explore the world of food. From the equipment available to the bounty of fresh and processed foods that can be obtained and prepared by both the novice and the more experienced cook this course presents an introduction to the culinary arts. While the topics are basic the course is also a foundation to more advanced studies in food.

### **HOS 102: FOOD MANAGEMENT . . . . . 3 CREDITS**

*LEC 3 hrs. LAB 0 hrs.*

The management of food and related costs in the professional environment is an underlying factor throughout the Hospitality Industry. This course provides the framework from which to examine any organization and understand the principles by which they operate and manage food production. Included in the course is the opportunity to receive two NRAEF Certificates (Hospitality and Restaurant Management & Managerial Accounting) towards the ManageFirst Certification

### **HOS 103: FOOD PRODUCTION . . . . . 3 CREDITS**

*Prerequisites: HOS 101 or equivalent*

*LEC 2 hrs. LAB 2 hrs. LAB FEE \$60*

The production of food in the professional environment is a demanding and time consuming process which requires great skill. This course provides the framework from which to examine any organization and understand the principles and processes by which they prepare and manage food production. Included in the course is the opportunity to receive one NRAEF Certificate in Food Production towards the ManageFirst Certification.

### **HOS 104: FOOD SAFETY AND NUTRITION . . 3 CREDITS**

*LEC 3 hrs. LAB 0 hrs.*

The safe and nutritious management of food in a production environment is of the utmost importance in the Restaurant and Hospitality Industry. This course provides the benchmarks to begin a safe food production environment and then continue the process with nutritious and healthy offerings to guests and customers. Included in the course is the opportunity to receive two NRAEF Certificates (ServSafe & Nutrition) towards the ManageFirst Certification.

**HOS 110: DINING ROOM SERVICE . . . . .4 CREDITS***LEC 3 hrs., LAB 2 hrs. Course Fee \$60*

This course provides introductory training in the operations and practices of the Hospitality Industry in relation to food and beverage service. Students will study the techniques needed to work and succeed in a professional environment. Included in the course is the opportunity to receive two NRAEF Certificates (ServSafe Alcohol & Customer Service) towards the ManageFirst Certification.

**HOS 117: INTRODUCTION TO BAKING . . . . .4 CREDITS***LEC 2 hrs., LAB 2 hrs., Course fee \$60*

This is an introductory course in baking. This class introduces the student to the fundamental principles within a bakeshop and pastry kitchen. The student will learn the basic baking ingredients, how they are used; weights, measurements, equipment and importance of accuracy; basic procedure common to bakery formulas. Student will create and bake breads, quick breads, muffins and assorted pies.

**HOS 118: INTRODUCTION TO THE HOSPITALITY INDUSTRY . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A survey course of the hospitality industry which provides students with an overview of the role of management within the profession. Fundamentals of lodging management including luxury, convention, all-suite, gaming, and resort hotels, and food service management, including restaurants, catering, and institutional and business food service are studied. In addition, travel and tourism, recreation and leisure management (theme parks, clubs, and public parks), meeting and event sales, planning, and management, senior living services and support infrastructure and casino and gaming management as the balance of the eight areas which comprise the main business segments of the hospitality industry are studied. Basic concepts of ownership, franchising, management, human resources, marketing, cost control, facilities management, service, and career opportunities are examined.

**HOS 119: DESSERTS AND PASTRIES . . . . .4 CREDITS***LEC 3 hrs., LAB 2 hrs., Course fee \$60*

This course is a continuation of the baking methods and formulas introduced in Introduction to Baking. Students receive comprehensive instruction regarding the preparation of creams, custards, puddings and related sauces. Students prepare a variety of cakes and icings and learn to apply a variety of decorating styles and techniques. Selection and proper use and handling of various chocolates used in baking and decorating is covered. In addition, students will create advanced yeast bread, pies, tarts, mousses, pate choux, and laminated pastries. Emphasis is also placed on dessert plating and presentation.

**HOS 120: HOTEL/HOSPITALITY MANAGEMENT . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course provides Hospitality Management students and aspiring hotel management professionals within the industry strong conceptual management underpinnings while addressing the unique requirements of lodging managers. Students are taken on a department-by-department tour of a full service hotel. The organization and operation of lodging properties are analyzed from the perspective of the General Manager and the senior managers

comprising the hotel's Executive Operating Committee. This course combines discussions of hotel departmental managerial responsibilities, roles and practice with information directly relevant to careers in lodging management. Students learn about the procedures effective managers use to ensure their hotels' and thus their own ultimate success.

**HOS 122: WORLD CUISINES . . . . .4 CREDITS***LEC 3 hrs., LAB 2 hrs. Course Fee \$60*

This course will help students gain a broader knowledge of what people eat around the world and how to prepare diverse ethnic foods that have become common here in America. The centuries of geographic, historical, cultural, religious and economic factors that shaped our modern global cuisine are fascinating and wide-ranging study of both practice and theory.

**HOS 126: AMERICAN REGIONAL CUISINE . . . . .1 CREDIT***LEC 0 hrs. LAB 2 hrs. LAB FEE \$ 60*

American Regional Cuisine celebrates the diversity, distinction, and delectable essences of American cooking. Organized by region, these recipes are drawn from every part of the menu, offering a range of complete meals for each culinary style.

**HOS 127: ITALIAN CUISINE . . . . .1 CREDIT***LEC 0 hrs. LAB 2 hrs. LAB FEE \$ 60*

From savory soups to sweet desserts, the students will study Italian cooking in the same manner as a typical menu. Recipes will be drawn from every part of the meal and offer a wide range of culinary styles. The course provides a fascinating introduction to the widely diverse cuisine of Italy.

**HOS 128: CHINESE CUISINE . . . . .1 CREDIT***LEC 0 hrs. LAB 2 hrs. LAB FEE \$ 60*

Chinese cooking is one of the world's oldest continuous culinary traditions, developed over the course of four thousand years. A subject of profound importance for countless generations of Chinese philosophers, scholars, poets, and ordinary people, the selection, preparation, and consumption of food is much more than a matter of sustenance in Chinese tradition. This course will examine several of these factors while preparing and sampling traditional Chinese dishes.

**HOS 201: MARKETING AND EVENT PLANNING . . . . .3 CREDITS***LEC 3 HRS. LAB 0 HRS.*

The field of Event Planning is one of the most exciting and dynamic aspects of the Hospitality Industry. In order to be successful the marketing of not just the business but the individual is of primary importance. This course offers the opportunity to experience actual event planning while also studying menu, restaurant and personal marketing in relation to the Hospitality Industry. The course also offers potential certification in two NRAEF ManageFirst Certificates (Restaurant Marketing and Menu Marketing).

**HOS 209: FOODSERVICE SANITATION, SAFETY,  
AND REGULATORY ISSUES . . . . .3 CREDITS**

LEC 3 hrs., LAB 0 hrs.

This course provides students with an in-depth study of food microbiology, significant food-borne diseases, environmental health; sanitary codes enforced by regulatory agencies, and applied measures for the prevention of food-borne diseases and other microbiological problems. This course includes NRAEF ServSafe.

**HOS 211: HUMAN RESOURCES IN  
THE HOSPITALITY INDUSTRY . . . . .3 CREDIT**

LEC 3 HRS. LAB 0 HRS.

This course applies human resource management principles to the hotel and restaurant industry. Topics covered include recruitment, training, motivation, job descriptions, and alternative personnel policies. An additional module on Spanish in the Hospitality Industry will emphasize the vital role of diversity within the Industry. Included in the course is the opportunity to receive one NRAEF Certificate in Human Resources towards the ManageFirst Certification

**HOS 213: FOOD AND BEVERAGE PURCHASING  
AND COST CONTROLS. . . . .3 CREDITS**

LEC 3 hrs. LAB 0 hrs.

A more advanced course dealing with the concepts of selection and procurement in the hospitality industry. Special emphasis will be given to food cost, the purchasing function, procurement and inventory controls. In addition forecasting, budgeting, cash management and profit and loss statements will also be studied. Included in the course is the opportunity to receive two NRAEF Certificates (Inventory and Purchasing & Controlling Foodservice Costs) towards the ManageFirst Certification.

**HOS 215: FOOD AND BEVERAGE SERVICE  
MANAGEMENT . . . . .3 CREDITS**

LEC 3 hrs., LAB 0 hrs.

A comprehensive study of food and beverage managerial principles, with an emphasis on alcoholic beverages. The manufacture, distribution, control procedures, legal aspects, integrity issues, and the responsible service of alcoholic beverages are studied. An integral part of the course is the Training Intervention Procedures for Servers of Alcohol Certification Seminar in which each student participates. Students gain product knowledge of distilled spirits, wines, and beers, including an examination of contemporary non-alcoholic beverage alternatives.

**HOS 223: COOPERATIVE WORK EXPERIENCE -  
HOSPITALITY MANAGEMENT . . . . .3 CREDIT**

*Prerequisite: Permission of the department/completion of first-year of program*

*Corequisite: HOS 224*

LEC 3 hrs., LAB 0 hrs.

This one-semester experiential learning course, in an approved hospitality organization, reinforces classroom and textbook theory with practical hospitality operations experience.

**HOS 224: COOPERATIVE WORK EXPERIENCE –  
HOSPITALITY MANAGEMENT –  
RELATED CLASS . . . . .1 CREDIT**

*Prerequisite: Permission of the department/completion of first-year of program*

*Corequisite: HOS 223*

LEC 1 hr., LAB 0 hrs.

This course supplements the practical hospitality operations experience, HOS 223. The student is provided with a framework for approaching career management. The appropriate decision-making ability to achieve success and satisfaction by actively and intelligently directing individual employment decisions is emphasized as a vehicle for students to direct professional careers over their life cycle.

*National Restaurant Association ManageFirst Course*

**HOS 232: PRINCIPLES OF TRAVEL  
AND TOURISM . . . . .3 CREDITS**

LEC 3 hrs., LAB 0 hrs.

Principles of travel and tourism offer hospitality management majors, other students, and aspiring travel and tourism professionals a comprehensive overview of the principles, practices, and philosophies of this interdisciplinary segment of the Hospitality Industry. Major concepts, including the economics, history, career opportunities, global perspective, worldwide organizations, modes of travel and related services, providers, and destination pursuits are studied.

## Human Services

**HMS 215: INTRODUCTION TO SOCIAL WELFARE  
AND HUMAN SERVICES. . . . .3 CREDITS**

*(previously HMS 115)*

LEC 3 hrs., LAB 0 hrs.

An introduction to the goals, values and philosophy of social work as a profession. Examines the relationship between attitudes and values, economic, political and cultural conditions, and the evolution of social welfare services focusing attention on the historical developments of social services in the United States. Provides understanding of the basic elements of the client-worker relationship.

**HMS 216: HUMAN NEEDS AND  
SOCIAL SERVICES . . . . .3 CREDITS**

*(previously HMS 116)*

LEC 3 hrs., LAB 0 hrs.

This course presents a conceptual framework through which human behavior is systematically understood. It explores the needs of people as determined by their biological and psycho/social growth and development, and by their special relationship to society and its problems. The means by which these needs can be met by the social welfare system also are presented.



## International Studies

### ISA 110: INTERCULTURAL COMMUNICATION . 3 CREDITS

*Prerequisite: ENG 025*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

Explores the theory and practice of communication and face-to-face interaction in situations where cultural values differ. Includes verbal and non-verbal communication.

### ISA 215: SURVEY OF ISLAM . . . . . 3 CREDITS

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

This course will cover basic beliefs of Sunni and Shi'i Muslims, the Qur'an and Islamic law, the life of Muhammad and early Muslim history, Sufism, the diversity of the Islamic community, Islam in the twentieth century, and Fundamentalism.

## Landscape and Horticultural Technology

### LHT 101: INTRODUCTION TO TURF MANAGEMENT 3 . . . . . CREDITS

*LEC 2 hrs., LAB 3 hrs.*

Intended to provide students with the skills needed to professionally manage turf facilities including golf courses, recreational and athletic fields, topics include turf establishment and reseeding, turf management, turf maintenance, irrigation, control of turf pests, and maintenance of turf areas. This course may be eligible for New Jersey Pesticide Recertification Credits in both Core and selected Categories. This course is offered as a traditional face-to-face course, or as a hybrid online course. The face-to-face course also has an on-line enhancement.

### LHT 108: HERBACEOUS PLANT MATERIALS . 3 CREDITS

*LEC 2 hrs., LAB 3 hrs., Course fee \$60*

This course teaches field identification techniques, installation, selection, and uses of herbaceous plants including both annuals and perennials in a landscape, maintenance of herbaceous plants, and the selection of tools and equipment in the maintenance of herbaceous landscape plants.

### LHT 110: PLANT SCIENCE . . . . . 3 CREDITS

*LEC 2 hrs., LAB 3 hrs.*

Plant Science includes studying the effects of the environment on plant growth and development, plant morphology and physiology, plant classification. Students apply theory by propagating, maintaining, and studying plants using the Landscape and Horticultural Technology Program greenhouse facility. This course is offered as a traditional face-to-face course, as an online course, or as a hybrid online course. The face-to-face course also has an on-line enhancement.

### LHT 111: INTRODUCTION TO HORTICULTURE. . . . . 4 CREDITS

*LEC 3 hrs., LAB 3 hrs.*

Principles of plant maintenance including pruning and fertilization, plant propagation, maintenance of interior plants and identification and production of annuals and perennials for commercial use. Students apply classroom theory by producing both annual and perennial plants from seed, cuttings, and division. Commercial production techniques are emphasized, including professional greenhouse management. This course is offered as a traditional face-to-face course, or as a hybrid online course. The face-to-face course also has an on-line enhancement.

### LHT 114: LANDSCAPE PLANT IDENTIFICATION, MANAGEMENT AND USE . . . . . 3 CREDITS

*LEC 2 hrs., LAB 3 hrs.,*

This course focuses on field identification techniques landscape uses of plants, and provides an introduction to plant selection. Over 100 species of woody plant material are studied including trees, shrubs, vines, and ground covers. The CCM campus, local garden centers, and arboreta of the Morris County Park Commission are all used for field study. This course is offered as a traditional face-to-face course, as an online course, or as a hybrid online course. The face-to-face course also has an on-line enhancement.

### LHT 115: HORTICULTURAL COMPUTER SOFTWARE APPLICATIONS. . . . . 3 CREDITS

*LEC 2 hrs., LAB 3 hrs.*

Using the latest in computer technology and software designed for the green industry, this course will familiarize students with the most effective ways to use the computer as a tool for online research, landscape design, landscape imaging, and digital presentation development. Computer-assisted drafting is a major focus, and students will also be introduced to GPS and GIS technology applications in agriculture. Students are provided with the opportunity to achieve technological literacy and competence in the selection and use of horticultural computer software. This course provides online enhancements and also offers students the opportunity to lease or purchase landscape design software at a significant discount.

### LHT 116: HORTICULTURAL SOILS. . . . . 4 CREDITS

*LEC 3 hrs., LAB 3 hrs.*

The origin, composition, and management of soils, including study of the physical and chemical properties with emphasis on ion exchange processes, soil classification, soil amendments, and biological processes that occur in the soil. The lab provides students with the opportunity to learn how to analyze and evaluate soil productivity including nutrient and pH levels as well as texture and structure. The emphasis throughout the course is on the development of problem solving abilities which can be applied to field work. Students are required to complete a semester project which requires that they analyze the suitability of soils in an assigned area. This course is offered as a face-to-face course which includes online enhancements or as a hybrid online course.

### **LHT 124: GROUNDS MAINTENANCE AND DEVELOPMENT . . . . . 3 CREDITS**

*LEC 2 hrs., LAB 3 hrs.*

This course provides the student with the skills needed to professionally manage exterior environments. Topics include turf and landscape plant management, irrigation, control of landscape pests, winter property management, and maintenance of landscape construction features as well as the maintenance of grounds equipment. This course is offered as a face-to-face course with online enhancements.

### **LHT 211: LANDSCAPE DESIGN AND PLANNING I . . . . . 3 CREDITS**

*Prerequisite: LHT 114 or AGR 114 or permission of the Instructor*

*LEC 1 hr., LAB 6 hrs.*

Class instruction emphasizes the theory, principles, and practices of design and planning, effective use of plant materials, artistic consideration of form and function, and basic drawing and drafting techniques. Students will learn to apply the design process as a problem-solving technique to produce finished designs, which can be used commercially for promoting the sale of landscape products and services. The process of design is a major focus and students are also taught storyboard techniques to enhance presentations. This course is offered as a face-to-face course with online enhancements or as a hybrid online course.

### **LHT 212: LANDSCAPE DESIGN AND PLANNING II . . . . . 3 CREDITS**

*Prerequisite: LHT 211 or AGR 211 or permission of the Instructor*

*LEC 1 hr., LAB 6 hrs.*

A continuation of Landscape Design and Planning I, class instruction focuses on problem solving for difficult sites, designing for slopes, xeriscaping, landscape lighting design, cultural influences on design, and specialty garden design. Cost estimation, presentation skills, and GPS applications are also covered. This course is offered as a face-to-face course with online enhancements or as a hybrid online course.

### **LHT 215: PLANT PEST MANAGEMENT. . . . . 4 CREDITS**

*Prerequisites: LHT 109 or LHT 110 or LHT 112 or LHT 111 or AGR 109 or AGR 112 or permission of Instructor*

*LEC 3 hrs., LAB 3 hrs.*

Provides an understanding of insects, diseases, and weeds that are recognized as pests of ornamental plant materials and turf areas. The nature, structure, and function of insect body parts; the growth, habits, injurious effects, and life cycles of pest organisms are studied in detail. Pesticides, regulations governing pesticide use and methods of selection and application are discussed with an emphasis on safety. Integrated Pest Management techniques are stressed and students apply an understanding of IPM techniques to both greenhouse and landscape management. This course is eligible for New Jersey Pesticide Recertification Credits in both Core and selected Categories. This course is offered as a face-to-face course with online enhancements and as either a hybrid or online course.

### **LHT 231: LANDSCAPE CONSTRUCTION AND EQUIPMENT . . . . . 3 CREDITS**

*LEC 2 hrs., LAB 3 hrs.*

Course emphasizes state-of-the-art landscape construction and installation techniques, surveying techniques, and the safe operation and maintenance of landscaping equipment. Utilizing the well-equipped Landscape and Horticultural Technology facility, this course provides the student with extensive hands-on instruction in hardscape installation and also focuses on teaching the student the value of professional certification programs. This course is offered as a face-to-face course with online enhancements and as a hybrid online course.

### **LHT 233: COOPERATIVE AGRICULTURAL EXPERIENCE . . . . . 3 CREDITS**

*Prerequisites: 2.0 GPA, completion of 25 credits in either Agribusiness, Landscape Management and Design, or Turf and Turfgrass Management and permission of the program coordinator.*

Recognizing that hands-on real work experience will be invaluable to the LHT student, this course provides students enrolled in the Landscape & Horticultural Technology Program with on-the-job training and work experience prior to graduation. In order to successfully complete this course the student must be employed within the landscape or horticultural profession and satisfactorily complete a minimum of 300 hours on the job.

### **LHT 234: LANDSCAPE AND TURF INSTALLATION . . . . . 3 CREDITS**

*Prerequisites: LHT 101 or LHT 110 or LHT 109 or LHT 111 or LHT 112 or LHT 124 or permission of the instructor. AGR 109 or AGR 112 will also be accepted as prerequisites.*

*LEC 2 hrs., LAB 3 hrs.*

This course is intended to provide the student with the skills and knowledge needed to succeed as landscape and turf installers and managers. Skills developed include surveying, understanding grading and drainage, and installation techniques for both landscape plants and turf. This course may be eligible for New Jersey Pesticide Recertification Credits in both Core and selected Categories. This course is offered as a face-to-face course with online enhancements and as a hybrid online course.

### **LHT 235: IRRIGATION SYSTEMS . . . . . 4 CREDITS**

*LEC 3 hrs., LAB 3 hrs., Course fee \$75*

This course is intended to provide the student with a general understanding of the components, use, and function of irrigation systems. By completion of this course the student will be able to operate, maintain, and repair irrigation systems.

### **LHT 291: SPECIAL TOPICS IN AGRICULTURE I . . . . . 3 CREDITS**

*Course fee \$50*

This course is an Independent Study course which will involve the students in an individualized course of study designed to fit each student's program of study and career goal.

## LHT 292: SPECIAL TOPICS IN AGRICULTURE II .....3 CREDITS

Course fee \$50

This course is the second Independent Study course of a two semester sequence which will involve the students in an individualized course of study designed to fit each student's program of study and career goals.

## Languages

### Guidelines for the Foreign Language Requirement:

- When transferred to the County College of Morris, college credits for courses in foreign languages can meet the language requirements of a particular degree and/or serve as a humanities elective, free elective, general education elective or global/diversity perspective requirement for graduation, provided that the language credits come from an accredited institution.
- Students may also fulfill this requirement through departmental examination in the languages we offer. Permission from the chairperson is required.
- Students who have taken CLEP tests at CCM or through a recognized testing center can apply any obtained credits towards a degree at CCM. No other tests will be accepted in order to grant language credits at CCM.
- Native speakers of one of the languages offered may only enroll in advanced courses of that language in order to fulfill an elective requirement or to fulfill the Spanish Teaching Program requirements.
- A student that has taken two or more years of a language in high school within the last three years may not enroll in the elementary level "111" of a language.
- A student that has taken more than three years of a language in high school within the last three years must enroll in the intermediate level "211" or higher of that language at CCM.
- Students that want take level "112" or higher of Spanish are required to take our placement test to ensure proper placement. Please inquire about other languages at Language Department.

## ARABIC

### ARA 111: ELEMENTARY ARABIC I .....3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

The course is designed for students with little or no prior knowledge of Arabic. Coursework combines the use of a textbook and other relevant and authentic materials for writing, reading, speaking and listening comprehension. By the end of the course, students are expected to master the writing and sound systems of Arabic, understand and use basic grammatical structures, have use of basic vocabulary words, comprehend short reading passages, and understand simple utterances. Not intended for native speakers.

### ARA 112: ELEMENTARY ARABIC II .....3 CREDITS

*Prerequisite: ARA 111 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Arabic expand their study of basic Arabic script, pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes root consonants and word shapes, word order and agreement, plural and agreement of adjectives, dual nouns, pronouns, verbs and adjectives, and the past tense. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Arabic language proficiency. The cultural context of the language is also covered.

### ARA 211: INTERMEDIATE ARABIC I .....3 CREDITS

*Prerequisite: ARA 112 or permission of the department chairperson.*

LEC 3 hrs.; LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course briefly reviews the grammar covered in Elementary Arabic II. It expands the Arabic vocabulary, grammar, reading, and writing skills of those students wishing to attain intermediate knowledge of the Arabic language.

## CHINESE

### CHI 111: ELEMENTARY CHINESE I .....3 CREDITS

LEC 3 hrs.; LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not for native speakers. Not intended for students with two or more years of high school Chinese.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading, and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar.

### CHI 112: ELEMENTARY CHINESE II .....3 CREDITS

*Prerequisite: CHI 111 or permission of the department chairperson.*

LEC 3 hrs.; LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Chinese expand their abilities in speaking, reading and writing Chinese. The student will develop more advanced usage of the Chinese language.

### CHI 211: INTERMEDIATE CHINESE I .....3 CREDITS

*Prerequisite: CHI 112 or permission of the department chairperson.*

LEC 3 hrs.; LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course is a continuation of Elementary Chinese II. It expands the Chinese vocabulary, grammar, reading, and writing skills of those students wishing to attain intermediate knowledge of the Chinese language.

**CHI 212: INTERMEDIATE CHINESE II . . . . .3 CREDITS**

*Prerequisite: CHI 211 or permission of the department chairperson.*  
*LEC 3 hrs.; LAB 0 hrs.*

This course is a continuation of Intermediate Chinese I. It expands the Chinese vocabulary, grammar, reading, and writing skills of those students wishing to attain intermediate knowledge of the Chinese language.

**CHI 291: SPECIAL TOPICS IN CHINESE I. . . . .3 CREDITS**

*Prerequisite: An advanced course in Chinese or permission of the department chairperson.*  
*LEC 3 hrs.; LAB 0 hrs.*

This course is an examination of selected topics or issues in Chinese language or culture. Topics may differ each time the course is offered. Students should contact the Department Chairperson for further information.

**CHI 292: SPECIAL TOPICS IN CHINESE II . . . . .3 CREDITS**

*Prerequisite: An advanced course in Chinese or permission of the department chairperson.*  
*LEC 3 hrs.; LAB 0 hrs.*

This course is an examination of selected topics or issues in Chinese language or culture. Topics may differ each time the course is offered. Students should contact the Department Chairperson for further information.

## FRENCH

**FRE 111: ELEMENTARY FRENCH I . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not for students with two or more years of high school French. See department chairperson.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar.

**FRE 112: ELEMENTARY FRENCH II . . . . .3 CREDITS**

*Prerequisite: FRE 111 or permission of the department chairperson.*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of French expand their study of basic French pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes past tenses, irregular verbs, and direct and indirect object pronouns. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance French language proficiency. The cultural context of the language is also covered.

**FRE 211: INTERMEDIATE FRENCH I . . . . .3 CREDITS**

*Prerequisite: FRE 112 or permission of the department chairperson.*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course is intended for students whose study of the first year of this language is recent and who wish to acquire new skills in the language. It includes a continuation of grammar and the study of reflexive verbs, the future tense and the pronouns *y* and *en*. Higher emphasis is given to conversation. Some compositions are required.

**FRE 212: INTERMEDIATE FRENCH II . . . . .3 CREDITS**

*Prerequisite: FRE 211 or permission of the department chairperson.*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course expands the French vocabulary, grammar, reading and writing skills of those students wishing to attain intermediate to advanced knowledge of French. Grammar study includes a review of future and conditional tenses, the subjunctive mood, double object pronouns, and the comparative and superlative of adjectives. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance French language proficiency. The cultural context of the language is also covered. A few readings from modern French literature and compositions on cultural subjects are required.

**FRE 221: FRENCH CONVERSATION AND LITERATURE I . . . . .3 CREDITS**

*Prerequisite: FRE 212 or permission of the department chairperson.*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Intensive practice in speaking French. Oral and written reports and discussions based on readings from literature in French.

**FRE 222: FRENCH CONVERSATION AND LITERATURE II . . . . .3 CREDITS**

*Prerequisite: FRE 221 or permission of the department chairperson.*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course focuses on highly advanced vocabulary and sentence structure for both everyday and academic French. Oral and written reports and discussions based on advanced readings from literature in French.

**FRE 291, 292: SPECIAL TOPICS IN FRENCH. .3 CREDITS**

*Prerequisite: An advanced course in French or permission of the department chairperson.*  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

An examination of selected topics or issues in French. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.



## GERMAN

### GER 111: ELEMENTARY GERMAN I . . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not intended for students with two or more years of high school German. See department chairperson.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar.

### GER 112: ELEMENTARY GERMAN II . . . . .3 CREDITS

*Prerequisite: GER 111 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of German expand their study of basic German pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes imperative, subjunctive mood, past, present and dependent infinitives, reflexive pronouns, attributive adjectives and adjectives used as nouns. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance German language proficiency. The cultural context of the language is also covered.

### GER 211: INTERMEDIATE GERMAN I . . . . .3 CREDITS

*Prerequisite: GER 112 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course is intended for students whose study of the first year of this language is recent and who wish to acquire new skills in the language. It includes a continuation of grammar. Higher emphasis is given to conversation. Some compositions are required.

### GER 212: INTERMEDIATE GERMAN II . . . . .3 CREDITS

*Prerequisite: GER 211 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course expands the German vocabulary, grammar, reading and writing skills of those students wishing to attain intermediate knowledge of the German language. Grammar study includes perfect and pluperfect tenses, declension of adjectives, and conjunctions. Course work involves conversation and readings from modern German literature and the writing of compositions. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance German language proficiency. The cultural context of the language is also covered.

### GER 221: GERMAN CONVERSATION AND LITERATURE I . . . . .3 CREDITS

*Prerequisite: GER 212 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Intensive practice in speaking everyday German. Oral and written reports and discussions based on readings from German literature.

### GER 222: GERMAN CONVERSATION AND LITERATURE II . . . . .3 CREDITS

*Prerequisite: GER 221 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course focuses on highly advanced vocabulary and sentence structure for both contemporary and academic German. Oral and written reports and discussions based on advanced readings from German literature.

### GER 291, 292: SPECIAL TOPICS IN GERMAN 3 CREDITS

*Prerequisite: An advanced course in German or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

An examination of selected topics or issues in German. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## HEBREW

### HBR 111: ELEMENTARY MODERN HEBREW I 3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not intended for native speakers.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar.

### HBR 112: ELEMENTARY MODERN HEBREW II . . . . .3 CREDITS

*Prerequisite: HBR 111 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Hebrew expand their study of basic Hebrew script, pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes future tense, commands, the infinitive, declension of direct object pronouns, sound classes and meaning classes of verbs. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Hebrew language proficiency. The cultural context of the language is also covered.

## ITALIAN

### ITL 111: ELEMENTARY ITALIAN I . . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not intended for students with two or more years of high school Italian. See department chairperson.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar, including present tense, prepositions and "partitivo" construction. This course covers greetings, introductions, answering the telephone, describing people and places, talking about classes, food, and other daily activities. The course is designed as part of four semesters of complete language study.

### ITL 112: ELEMENTARY ITALIAN II . . . . .3 CREDITS

*Prerequisite: ITL 111 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Italian expand their study of basic Italian pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes past tenses, present progressive, possessive adjectives, and the imperative mood. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Italian language proficiency. The cultural context of the language is also covered.

### ITL 211: INTERMEDIATE ITALIAN I . . . . .3 CREDITS

*Prerequisite: ITL 112 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course is intended for students whose study of the first year of this language is recent and who wish to acquire new skills in the language. As a continuation of grammar, double object pronouns, the study of the future tense and the conditional forms are introduced. It also includes a review of grammar. Higher emphasis is given to conversation. Some short compositions are required.

### ITL 212: INTERMEDIATE ITALIAN II . . . . .3 CREDITS

*Prerequisite: ITL 211 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course expands the Italian vocabulary, grammar, reading and writing skills of those students wishing to attain intermediate knowledge of the Italian language. Grammar study includes a review of all verb tenses, the passato remoto, the comparative and superlative forms, and the subjunctive mood in all tenses. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Italian language proficiency. The cultural context of the language is also covered.

### ITL 221: ITALIAN CONVERSATION AND LITERATURE I . . . . .3 CREDITS

*Prerequisite: ITL 212 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Intensive practice in speaking everyday Italian. Oral and written reports and discussions based on readings from Italian literature.

### ITL 222: ITALIAN CONVERSATION AND LITERATURE II . . . . .3 CREDITS

*Prerequisite: ITL 221 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course focuses on highly advanced vocabulary and sentence structure for both everyday and academic Italian. Oral and written reports and discussions based on advanced readings from Italian literature.

### ITL 291, 292: SPECIAL TOPICS IN ITALIAN . . .3 CREDITS

*Prerequisite: An advanced course in Italian or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

An examination of selected topics or issues in Italian. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## JAPANESE

### JPN 111: ELEMENTARY JAPANESE I . . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not intended for students with two or more years of high school Japanese.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar. Kana writing system and some Kanji writing characters are introduced at this stage.

### JPN 112: ELEMENTARY JAPANESE II . . . . .3 CREDITS

*Prerequisite: JPN 111 or permission of the department chairperson.*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Japanese expand their study of basic Japanese language, script, pronunciation, vocabulary and grammar of an elementary nature. Grammar includes study of basic syntactical structures. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Japanese language proficiency. The cultural context of the language is also covered. At least fifty-six Kanji characters are introduced at this stage.

**JPN 211: INTERMEDIATE JAPANESE I . . . . .3 CREDITS**

*Prerequisite: JPN 112 or permission of the department chairperson.*

*LEC 3 hrs., Lab 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

The course is intended for students whose study of the first year of this language is recent and who wish to hone their skills. It includes a continuation of grammar, conversation, readings from modern Japanese literature, and compositions on cultural subjects.

**JPN 212: INTERMEDIATE JAPANESE II. . . . .3 CREDITS**

*Prerequisite: JPN 211 or permission of the department chairperson.*

*LEC 3 hrs., Lab 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course expands the Japanese vocabulary, grammar, reading, and writing skills of those students wishing to attain intermediate knowledge of the Japanese language. Vocabulary and grammar support listening, reading, and writing in an effort to enhance Japanese language proficiency. The cultural context of the language is also covered.

**LATIN****LAT 111: ELEMENTARY LATIN I. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement. Not intended for students with two or more years of high school Latin.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. It includes basic grammar and vocabulary, selected readings with stress on syntax, and the relationship of Latin grammar to English grammar.

**LAT 112: ELEMENTARY LATIN II . . . . .3 CREDITS**

*Prerequisite: LAT 111 or permission of the department chairperson.*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

Students with one prior semester of Latin expand their study of basic Latin vocabulary and grammar of an elementary nature. Grammar study includes third and fourth conjugation and third and fourth declension, pluperfect and future tenses, and the ablative case. Vocabulary and grammar support readings with stress on syntax, and the relationship of Latin grammar to English grammar.

**PORTUGUESE****PTG 111: ELEMENTARY PORTUGUESE I . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity requirement provided the language is not the student's native language. Not for native speakers.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary, basic cultural knowledge and the essentials of grammar.-.

**PTG 112: ELEMENTARY PORTUGUESE II. . . .3 CREDITS**

*Prerequisite: PTG 111 or permission of department chairperson*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity requirement provided the language is not the student's native language.*

This course is intended for students with one semester of elementary college-level Portuguese or with limited background in the language. Emphasis is given to fundamentals of conversation, reading and writing. The course includes practice in pronunciation, basic vocabulary, basic cultural knowledge and the essentials of grammar.

**RUSSIAN****RUS 111: ELEMENTARY RUSSIAN I. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not for native speakers. See department chairperson.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar.

**RUS 112: ELEMENTARY RUSSIAN II . . . . .3 CREDITS**

*Prerequisite: RUS 111 or permission of the department chairperson.*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Russian expand their study of basic Russian pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes imperative words and subjunctive mood, dative, accusative, and prepositional cases, plural of nouns, and demonstrative pronouns. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Russian language proficiency. The cultural context of the language is also covered.

**RUS 211: INTERMEDIATE RUSSIAN I. . . . .3 CREDITS**

*Prerequisite: RUS112 or permission of the department chairperson.*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

The course is intended for students whose study of the first year of this language is recent and who wish to hone their skills. It includes a continuation of grammar, conversation, and some compositions on cultural subjects. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Russian language proficiency. The cultural context of the language is also covered.

**RUS 212: INTERMEDIATE RUSSIAN II . . . . .3 CREDITS**

*Prerequisite: RUS 211 or permission of department chairperson.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

The course is intended for students to attain intermediate to advanced skills. It includes a continuation of grammar and con-

versation. Readings from Russian literature, and compositions are required. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Russian language proficiency. The cultural context of the language is also covered.

## SPANISH

### SPN 111: ELEMENTARY SPANISH I . . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language. Not for students with two or more years of high school Spanish. See department chairperson. Not for native speakers.*

This course is intended for students with no prior knowledge of, or with limited background in, the language. Emphasis on fundamentals of conversation, reading and writing. Practice in pronunciation, basic vocabulary and the essentials of grammar.

### SPN 112: ELEMENTARY SPANISH II . . . . .3 CREDITS

Prerequisite: SPN 111 or permission of the department chairperson.

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Students with one prior semester of Spanish expand their study of basic Spanish pronunciation, vocabulary and grammar of an elementary nature. Grammar study includes past tenses, the present progressive tense, the verb gustar, direct and indirect object pronouns, adjectives, reflexive verbs, and prepositions. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Spanish language proficiency. The cultural context of the language is also covered.

### SPN 209: BUSINESS SPANISH . . . . .3 CREDITS

Prerequisite: SPN 111 or permission of the department chairperson

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course introduces essential vocabulary in common business contexts, reinforces strategies for understanding, interpreting and responding to new information, and provides abundant opportunities for interactive practice.

### SPN 211: INTERMEDIATE SPANISH I . . . . .3 CREDITS

Prerequisite: SPN 112 or permission of the department chairperson.

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course expands the Spanish vocabulary, grammar, reading and writing skills of those students wishing to continue work towards an intermediate knowledge of the Spanish language. Grammar study includes expanded use of prepositions, relative pronouns, preterit and imperfect tenses, commands, and the introduction to the subjunctive mood. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Spanish language proficiency. The cultural context of the language is also covered.

### SPN 212: INTERMEDIATE SPANISH II . . . . .3 CREDITS

Prerequisite: SPN 211 or permission of the department chairperson.

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course expands the Spanish vocabulary, grammar, reading and writing skills of those students wishing to attain an intermediate knowledge of the Spanish language. Grammar study includes general tenses in the indicative and subjunctive moods. Vocabulary and grammar support listening, reading, speaking, and writing in an effort to enhance Spanish language proficiency. The cultural context of the language is also covered.

### SPN 218: ADVANCED SPANISH CONVERSATION . . . . .3 CREDITS

Prerequisite: SPN 212 or permission of the department chairperson.

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Advanced Spanish Conversation instructs students conversant in Spanish in the correct and appropriate vocabulary, grammar and syntax for accurate spoken communication. Students deepen their understanding of idiomatic usage of the several Spanish-speaking countries through discussion of the varied themes explored by contemporary writers in short stories and other non-fiction readings, as well as consider shades of meaning inherent in their own syntactical and lexical choices. The varied readings and the interchange of ideas among the expected population of both American and Hispanic students support the cultural context of the language – the history, literature and art of the Hispanic people, and provide insight into the various ethnic and racial populations within each Spanish-speaking country and in the United States.

### SPN 219: ADVANCED SPANISH COMPOSITION . . . . .3 CREDITS

Prerequisite: SPN 212 or permission of the department chairperson

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

Advanced Spanish Composition focuses on correct and appropriate written forms of communication in Spanish. The expository, and argumentative essay will be studied along with other special types of formal and informal writing. Students will review spelling, syntax, and grammar, and are expected to conduct extensive conversation in Spanish to elicit topics for writing projects. This course will help the English speakers to develop new structures in Spanish syntax and understand, to a greater extent, aspects of Hispanic culture embodied in written forms. It will also increase the knowledge of written structures of native speakers and expand their understanding of formal written language. Classes for this course are conducted entirely in Spanish.



**SPN 223: SURVEY OF LATIN AMERICAN LITERATURE:  
PRE-COLUMBIAN TO  
THE PRESENT .....3 CREDITS**

*Prerequisite:* SPN 212 or permission of the department chairperson.  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course provides a historical and critical overview of Latin American literature beginning with pre-Columbian myths and poetry, and continuing through the literature of the conquest and the colonies, independence, Romanticism, Modernism, Postmodernism, the mid-twentieth century "Boom" and the Post-Boom on up to the present. Major writers may include Hernán Cortés, Sor Juana Inés de la Cruz, Darío, Martí, Neruda, Paz, García Márquez, Poniatowska, Valenzuela, and Allende. The course is conducted entirely in Spanish.

**SPN 224: SURVEY OF (PENINSULAR) LITERATURE:  
MIDDLE AGES TO THE PRESENT . .3 CREDITS**

*Prerequisite:* SPN 212 or permission of the department chairperson.  
*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

This course provides a historical and critical overview of Spanish (Peninsular) literature beginning with the Middle Ages and ending in the present. Among the literary periods to be covered are the Renaissance, the Baroque period, the Enlightenment, Romanticism, Realism, the Generations of 1898 and 1927, and post-Spanish Civil War. Major writers include Don Juan Manuel, Garcilaso de la Vega, Santa Teresa de Jesús, Cervantes, Lope de Vega, Bécquer, Pérez Galdós, Unamuno, Machado, Lorca, Cela, Ana María Matute, and Carmen Martín Gaité. This course is conducted entirely in Spanish.

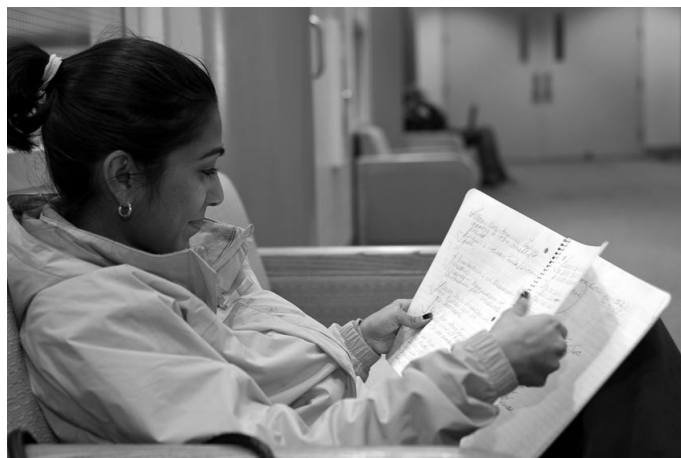
**SPN 291, 292: SPECIAL TOPICS IN SPANISH .3 CREDITS**

*Prerequisite:* An advanced course in Spanish or permission of the department chairperson.

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement provided the language is not the student's native language.*

An examination of selected topics or issues in Spanish. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.



## Marketing

**MKT 113: PRINCIPLES OF MARKETING I . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This is an introduction to basic principles and practices in marketing. The course provides an overview of the field of marketing in areas of consumer behavior, marketing management and channels of distribution and emphasizes the growth of the marketing concept.

**MKT 114: PRINCIPLES OF MARKETING II . . .3 CREDITS**

*Lec 3 hrs., Lab 0 hrs.*

*Prerequisite:* MKT 113

Continues the study of Principles of Marketing and the application of these principles, including international marketing. Emphasis will be placed on the case method approach.

**MKT 218: ADVERTISING .....3 CREDITS**

*Lec 3 hrs., Lab 3 hrs.*

This course builds on fundamental marketing and advertising concepts and their applications in support of small business development and management. Current web-based techniques as well as direct selling approaches will be emphasized.

## Mathematics

**MAT 009: BASIC MATHEMATICS IA . . . . . N1 CREDIT**

*3 hrs./day for one week*

*Prerequisite:* Appropriate score on a placement test.

*LEC 1 hr., LAB 0 hrs.*

This is an intensive one-week review of topics typically found on the computation placement test. A passing grade satisfies the Basic Mathematics requirement.

**MAT 010: BASIC ALGEBRA IA . . . . . N1 CREDIT**

*3 hrs./day for one week*

*Prerequisite:* Appropriate score on a placement test.

*LEC 1 hr., LAB 0 hrs.*

This is an intensive one-week review of topics typically found on the basic algebra placement test. A passing grade satisfies the Basic Algebra requirement.

**MAT 011: BASIC MATHEMATICS I . . . . . N3 CREDITS**

*Prerequisite:* Appropriate score on a placement test.

*LEC 3 hrs., LAB 0 hrs.*

A preparatory course designed for students who need additional practice and review in arithmetic.

**MAT 014: BASIC ALGEBRA I . . . . . N3 CREDITS**

*Prerequisite:* MAT 011 or equivalent

*LEC 3 hrs., LAB 0 hrs.*

A preparatory course in elementary algebra which includes rational numbers, polynomials, algebraic operations, first-degree equations, graphing, systems of linear equations, problem solving, and an introduction to the quadratic equations.

**MAT 016: INTERMEDIATE ALGEBRA . . . . . N3 CREDITS**

*Prerequisite:* MAT 014 or equivalent.

*Lec 3 hrs. Lab 0 hrs.*

A second level preparatory algebra course designed to prepare students for credit-level mathematics courses. Covered are selected topics including linear equations and inequalities, exponents, polynomials, factoring, and rational and radical expressions.

**MAT 050: FUNDAMENTALS OF MATHEMATICS . . . . . N5 CREDITS**

*Prerequisite:* Appropriate score on a placement test.

*LEC 5 hrs., LAB 0 hrs.*

This course integrates selected topics of arithmetic and introductory algebra, including computation, topics in geometry, operations on signed numbers, solving linear equations in one variable, operations on polynomials, factoring, integer exponents, and graphing.

**MAT 060: FUNDAMENTALS OF ALGEBRA . N6 CREDITS**

*Prerequisite:* Appropriate score on a placement test.

*LEC 6 hrs. LAB 0 hrs.*

An intensive one-semester course to prepare students for credit mathematics courses. Topics include computation, polynomials, exponents, linear equations, factoring, rational expressions, radicals and solving quadratic equations.

**MAT 108: BASIC STATISTICS . . . . . 3 CREDITS**

*Prerequisite:* MAT 014 or equivalent

*LEC 3 hrs., LAB 0 hrs.*

An introduction to statistical methods and reasoning as applied to practical problems. Topics include collecting and summarizing data, histograms and other types of graphs, descriptive statistics, normal distribution, sampling, surveys, use of computers in statistics and interpretation of data.

**MAT 110: COLLEGE ALGEBRA . . . . . 3 CREDITS**

*Prerequisite:* MAT 016 (grade of "C" or better) or equivalent

*LEC 3 hrs., LAB 0 hrs.*

An intensive course designed to prepare students for mathematics courses such as Calculus with Applications to Business and Economics, and Precalculus. It covers selected algebra topics including exponents; rational expressions; polynomials, radicals, relations and functions; exponential and logarithmic functions, systems of equations.

**MAT 113: APPLIED CALCULUS . . . . . 4 CREDITS**

*Prerequisite:* MAT 110 or 123

*LEC 4 hrs., LAB 0 hrs.*

A study of topics which provides a basis for continuing courses in mathematics and the physical sciences. This course includes trigonometric, exponential and logarithmic functions; analytic geometry; differentiation and integration.

**MAT 117: MATHEMATICAL ANALYSIS FOR BUSINESS AND ECONOMICS . . . . 3 CREDITS**

*Prerequisite:* MAT 016 (grade of "C" or better) or equivalent.

*LEC 3 hrs., LAB 0 hrs.*

Mathematical topics used in business and economics with emphasis on applications. Covered are polynomials, linear and quadratic models, systems of equations, matrix algebra, and linear programming including the Simplex Method.

**MAT 118: CALCULUS WITH APPLICATION TO BUSINESS AND ECONOMICS . 3 CREDITS**

*Prerequisite:* MAT 110 (grade of "C" or better) or equivalent

*LEC 3 hrs., LAB 0 hrs.*

A course covering functions, derivatives and integration, with special consideration of applications to the business and economics areas. Partial differentiation is introduced.

**MAT 120: MATHEMATICS FOR THE LIBERAL ARTS . . . . . 3 CREDITS**

*Prerequisite:* MAT 016 or equivalent.

*LEC 3 hrs., LAB 0 hrs.*

A course addressed to liberal arts students. Topics include history of mathematics, probability, statistics, geometry, and a choice of specific topics.

**MAT 123: PRECALCULUS . . . . . 4 CREDITS**

*Prerequisite:* MAT 110 (grade of "C" or better) or equivalent

*LEC 4 hrs., LAB 0 hrs.*

An intensive one-semester course to prepare students for Analytic Geometry and Calculus, including absolute values; relations; functions; equations; inequalities; polynomial, rational, trigonometric, inverse trigonometric, exponential and logarithmic functions; trigonometric equations and identities; and graphs.

**MAT 124: STATISTICS . . . . . 3 CREDITS**

*Prerequisite:* MAT 016 or equivalent

*LEC 3 hrs., LAB 0 hrs.*

The fundamental principles of statistical methods. Descriptive statistics, correlation, regression, probability, binomial and normal distributions, sampling, elementary hypothesis testing and confidence intervals are included.

**MAT 126: ADVANCED STATISTICS . . . . . 3 CREDITS**

*Prerequisite:* MAT 124 (grade of "C" or better)

*LEC 3 hrs., LAB 0 hrs.*

A continuation of Statistics. Techniques for collection and analysis of data, emphasizing estimation and hypothesis testing, analysis of variance and regression analysis are included.

**MAT 130: PROBABILITY AND STATISTICS . . . . . 4 CR.**

*Prerequisite:* MAT016 or equivalent

*LEC 4 hrs. LAB 0 hrs.*

The fundamental principles of statistical methods integrated with statistical technology. Topics include descriptive statistics, correlation, regression, probability, binomial and normal distributions, sampling, elementary hypothesis testing and confidence intervals. A project is required.

**MAT 131: ANALYTIC GEOMETRY  
AND CALCULUS I . . . . .4 CREDITS**

*Prerequisite:* MAT 123 (grade of "C" or better) or equivalent  
*LEC 4 hrs., LAB 0 hrs.*

The first semester of a three-semester sequence. Analytic geometry in the plane, differentiation and applications, and integration are covered.

**MAT 132: ANALYTIC GEOMETRY  
AND CALCULUS II. . . . .4 CREDITS**

*Prerequisite:* MAT 131 (grade of "C" or better) or equivalent  
*LEC 4 hrs., LAB 0 hrs.*

A continuation of Analytic Geometry and Calculus I, which covers the calculus of inverse trigonometric functions, methods of integration, analytic geometry in the plane including polar coordinates and conic sections, hyperbolic functions, sequences and series, and parametric equations.

**MAT 140: MATH FOR RADIOGRAPHERS. . . . .1 CREDIT**

*Prerequisite:* MAT 016 and Admission to the Radiography Program  
*Corequisite:* RAD 100, RAD 104, RAD 107  
*LEC 1 hrs., LAB 0 hrs.*

This course discusses the math skills that are crucial in the health-care environment. It teaches the basis measurements, calculations, percents, ratios, and proportions, scientific notation, metric conversions, basis algebraic principles and basic geometric principles used in Radiology. It reviews whole numbers, fractions, decimals, and exponents. Radiology units and numeric prefixes will also be discussed.

**MAT 180: STATISTICS-HONORS. . . . .3 CREDITS**

*Prerequisite:* Permission of honors coordinator or department  
*LEC 3 hrs., LAB 0 hrs.*

An introduction to the fundamental principles of statistical methods. The course will integrate spreadsheet software to cover such topics as descriptive statistics, correlation, regression, probability, binomial and normal distributions, sampling, elementary hypothesis testing and confidence intervals. Comprehensive case studies will be covered throughout the semester.

**MAT 228: LINEAR ALGEBRA . . . . . 3 CREDITS**

*Prerequisite:* MAT132 (grade of "C" or better)  
*LEC 3hrs., LAB 0 hrs.*

Selected topics including matrices and determinants, vectors and vector spaces, linear transformations, eigenvalues and eigenvectors, with applications from a variety of disciplines.

**MAT 230: CALCULUS III. . . . .4 CREDITS**

*Prerequisite:* MAT 132 (grade of "C" or better)  
*LEC 4 hrs., LAB 0 hrs.*

A continuation of Analytic Geometry and Calculus II which includes analytic geometry in three dimensions, functions of several variables, partial derivatives, multiple integrals, vectors and an introduction to vector analysis.

**MAT 232: DIFFERENTIAL EQUATIONS . . . . .3 CREDITS**

*Prerequisite:* MAT 132 (grade of "C" or better)  
*LEC 3 hrs., LAB 0 hrs.*

Ordinary differential equations and methods of solution. Introduction to classical equations and their solutions, with some applications to geometry, physics and engineering.

**Mechanical  
Engineering Technology**

*NOTE: Computer usage and Internet access may be required in the following courses.*

**MEC 104: STATICS. . . . .3 CREDITS**

*Prerequisite:* MAT 110, ENR 119 and ENR 124  
*LEC 3 hrs., LAB 0 hrs.*

This course provides an analysis of force systems acting on particles and rigid bodies. Equilibrium in two and three dimensions. Trusses, frames, and machines. Friction, centroids and moment of inertia of areas.

**MEC 110: MATERIALS FOR  
ENGINEERING TECHNOLOGY. . . .4 CREDITS**

*Prerequisite:* MAT 011  
*LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course covers metallic, plastic, and ceramic materials that are important to manufacturing. Molecular and microscopic structures in relationship to material properties. Testing of mechanical and thermal properties with reference to ASTM standards. Equilibrium diagrams and physical metallurgy emphasizing steel and aluminum and heat treatment of steel. Molding and forming methods for plastics. A brief study of ceramics and composites.

**MEC 117: MECHANICAL PROTOTYPING. . . .2 CREDITS**

*LEC 1.5 hrs., LAB 1.5 hrs., Course fee \$30*

This course is a study of the methods of prototyping including an introduction to precision measurements, elementary theory of cutting and machining methods with emphasis on the lathe operation, milling, drilling and grinding.

*This course runs for 8 weeks.*

**MEC 118: COMPUTER INTEGRATED  
MANUFACTURING (CIM) . . . . .2 CREDITS**

*Prerequisite:* MEC 117 or industrial experience  
*LEC 1.5 hrs., LAB 1.5 hrs., Course fee \$30*

This course is a study of the methods of Computer-Aided Manufacturing (CAM) and the related field of Computerized Numerical Control (CNC). Topics include machine setup, CNC code, manual and post processed programs, rapid prototyping, tool offsets and tool changing.

*This course runs for 8 weeks.*

**MEC 141: STRENGTH OF MATERIALS FOR ENGINEERING TECHNOLOGY . . . .3 CREDITS***Prerequisites: MEC 104 and MAT 110**LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course studies the mathematical determination of stress and deflection for materials having applied loads of normal, shear, torsion, bending, or combinations of these. The rational design of mechanical components such as fasteners, weldments, tanks, shafts, beams, and columns, to satisfy stress, deflection and stability criteria. Mohr's circle and strain gauge techniques. This course is intended for Engineering Technology students; Engineering Science students should take ENR 230, Engineering Strength of Materials.

**MEC 155: MECHANICAL COMPONENTS . . . .4 CREDITS***Prerequisite: MAT 011**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course develops the fundamentals of sketching, blueprint reading, dimensioning, tolerances, preferred sizes and fits, and evaluating product quality. It also introduces the student to the theory of function of mechanical elements such as, linkages, cams bearings, gears belt and chain drives, springs, brakes, clutches, welds, keys, fasteners, and power screws.

**MEC 229: COOPERATIVE WORK EXPERIENCE – MECHANICAL ENGINEERING TECHNOLOGY . . . . .3 CREDITS***Prerequisite: Completion of 25 technical credits**Registration is only upon written recommendation of advisor.*

This course is a field experience in the laboratory facilities of an industrial firm. Designed for students in the Mechanical Engineering Technology program to obtain industrial experience as a supplement to college studies prior to career employment. Seminar evaluation visitations are included.

**MEC 235: KINEMATICS . . . . .3 CREDITS***Prerequisite: MAT 110**Corequisite: PHY 111**LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course is a study of moving elements as used in the design and analysis of basic mechanisms in machines. Velocity and acceleration analysis on a plane. Design and analysis of 4-bar linkages, cams, gears, and other mechanisms using graphical and analytical methods.

**MEC 236: MACHINE DESIGN . . . . .4 CREDITS***Prerequisite: MEC 141**LEC 3 hrs., LAB 3 hrs., Course fee \$30*

This course is the rational design and selection of machine elements considering their economics and manufacturability. The principles of strength of materials and mechanics are applied to the design of bearings, shafts, gears, springs, brakes and other elements of importance in mechanical systems. Consideration of service criteria, operating environment and cost. Emphasis on developing a systematic design philosophy.

**MEC 291, 292: SPECIAL TOPICS IN MECHANICAL ENGINEERING TECHNOLOGY. 3 CREDITS***Prerequisite: An introductory course in Mechanical Engineering Technology*

This course is an examination of selected topics or issues in Mechanical Engineering Technology. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

**Media Studies**

*Familiarity with the computer keyboard and mouse are strongly recommended for Media Studies courses.*

**MED 110: MULTIMEDIA I . . . . .3 CREDITS***Prerequisite: ENG 025**LEC 3 hrs., LAB 0 hrs., Course fee \$40*

Multimedia I is a survey course designed to allow students to explore, discuss, develop, and use multimedia technology. This computer-based course offers an extensive overview of the technologies of multimedia. Students engage in issues related to usability, management, and distribution. Topics include multimedia development and design, media elements, and emerging hardware and software trends. A multimedia prototype project that demonstrates conceptual and technical understanding is required.

**MED 113: MULTIMEDIA II. . . . .3 CREDITS***Prerequisite: MED 110**LEC 3 hrs., LAB 0 hrs., Course fee \$40*

An advanced course designed to allow students to apply the theory and basic practical knowledge presented in Multimedia I. Students will apply their knowledge using a multimedia authoring software to create animations and multimedia productions for DVD, local networks, or the Internet. Students incorporate traditional media production elements such as video and audio into interactive multimedia presentations. Conceptualization, user interface design, and prototyping are key course elements. A multimedia prototype project that demonstrates conceptual and technical understanding is required.

**MED 114: MEDIA AESTHETICS. . . . .3 CREDITS***LEC 3 hrs, LAB 0 hrs., Course fee \$40*

Learn about the creative side of television and multimedia design. This is a class that looks at the importance, influence, and meaning of visual images designed for use in electronic/digital media. Students learn about camera angles, lighting, color, motion, graphics, sound, screen space limitations, and more through lectures, viewing films, television programs, and multimedia examples. Comparisons between television and multimedia images are closely examined. Students apply knowledge of media aesthetics by producing projects using the television production studio and personal computer.



**MED 117: INTRODUCTION TO BROADCASTING . . . . .3 CREDITS***Prerequisite: ENG 025**LEC 3 hrs., LAB 0 hrs.*

This course offers an historical and content-analysis approach to the study of broadcast communications. Included will be the research and study of broadcast history, the FCC and broadcast regulations, program genres, social effects on audiences, and the future of the industry. This is accomplished via discussions, hand-outs, reading assignments, and in-class viewing and listening as well as viewing and listening assignments.

**MED 119: DIGITAL MEDIA PRODUCTION . . . . .3 CREDITS***LEC 3 hrs., Lab 0 hrs., Course Fee \$40*

This course will provide students with theory and training in the area of digital content development for digital media productions. Software and hardware training in digital video, audio, animation, and graphics will be introduced. In addition, the appropriate use of these areas of content in developing digital media productions as well as interface design will be discussed.

**MED 211: TELEVISION PRODUCTION I . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$40*

This course introduces students to the basic operation of a television studio and the production process. Students learn techniques and develop skills in various studio functions including camera, switching, sound, lighting, special FX, scriptwriting, and directing. Collaboration and teamwork are emphasized.

**MED 212: TELEVISION PRODUCTION II. . . . .3 CREDITS***Prerequisite: MED 211**LEC 3 hrs., LAB 0 hrs., Course fee \$40*

Students employ skills learned in Television Production I and learn advanced skills including studio and remote producing, remote-location video shooting, digital editing, advanced special FX generation and switching, and set design via a "live on tape" production of an actual television program.

**MED 213: MULTIMEDIA AUTHORING AND DESIGN . . . . .3 CREDITS***Prerequisite: MED 113**LEC 3 hrs., LAB 0 hrs., Course fee \$40*

Using industry-standard authoring software, students will apply multimedia technology to assemble a real-world interactive multimedia project. Concepts and principles of user interface design, digital audio and video production, team production techniques, and usability testing will be employed. As a member of a production team, students will plan, manage, and implement a complex multimedia production project to be used on a CD-ROM, DVD, a local network, or the Internet for a participating business partner.

**MED 220: ANIMATION . . . . .3 CREDITS***Prerequisite: MED 119**LEC 3 hrs., LAB 0 hrs., Course fee \$40*

This is an advanced production course utilizing 3D-modeling and animation software to create animated imagery for video and multimedia applications. Software includes 3D Studio Max (3D-animation) and Adobe Premiere and AfterEffects (digital

video). Through assigned projects, students will learn to combine live video and animation with compositing and bluescreening techniques.

**MED 224: INDEPENDENT STUDY IN MEDIA STUDIES . . . . .3 CREDITS***Prerequisite: Department of Information Technologies Chairperson permission.**LEC 3 hrs., LAB 1 hrs. Course fee \$20*

A student, in consultation with a Media advisor, undertakes an in-depth analysis of a selected topic, problem, or issue related to media or pursues additional media-related work experience. The student is responsible for developing a statement of goals, maintaining a weekly log, and preparing a written and oral summary report.

*Available only to Media Studies – Broadcasting Arts and Technology and Digital Media Technology majors.*

**MED 228: COOPERATIVE WORK EXPERIENCE – MEDIA STUDIES . . . . .3 CREDITS***Prerequisite: MED 212 or 213**Corequisite: MED 229**LEC 3 hrs., LAB 0 hrs.*

Actual applications of classroom learning in a supervised on-the-job training experience takes place daily. Students pursue their career objectives in the broadcasting arts or digital media area following a training plan with the assistance of a teacher-coordinator and on-the-job supervisor. Interested students should consult with the Department of Information Technologies Chairperson.

*Available only to Media Studies – Broadcasting Arts and Technology and Digital Media Technology majors.*

**MED 229: COOPERATIVE WORK EXPERIENCE – MEDIA STUDIES RELATED CLASS. . 1 CREDIT***Prerequisite: MED 212 or 213**Corequisite: MED 228**LEC. 1 hr., LAB 0 hrs.*

This course provides a variety of exercises that further develop students' technical skills, occupational adjustment, and career development competencies. Exercises help to develop interpersonal and communication skills and help to ensure a positive cooperative work experience.

*This course is offered online.*

*Available only to Media Studies – Broadcasting Arts and Technology and Digital Media Technology majors.*

**MED 230: MEDIA INTERNSHIP . . . . .3 CREDITS***Prerequisite: Information Technologies Chairperson permission.**LEC 3 hrs., LAB 0 hrs.*

Practical experience in the media career field is gained working part-time in an approved, supervised media-related environment or on an approved media-related project under the supervision of a media instructor and/or on-the-job supervisor.

*Available only to Media Studies – Broadcasting Arts and Technology and Digital Media Technology majors.*

**MED 240: ADVANCED ANIMATION. . . . .3 CREDITS***Prerequisite: MED 220**LEC 3 hrs., LAB 0 hrs. Course fee \$40*

This advanced-level course is a continuation of MED 220 Animation and is designed to expose students to high-end 3D-modeling tools for digital animation, electronic post-production, digital special effects, and digital multimedia. This course explores advanced applications in digital compositing, particle systems, Newtonian algorithms, kinematic, dynamation, and 3-dimensional characters.

**MED 291, 292, 293: SPECIAL TOPICS IN MEDIA STUDIES . . . .1/3/3 CREDITS***Prerequisite: An introductory course in Media Studies; Information Technologies' Chairperson permission.**LEC 3 hrs., LAB 0 hrs., or LEC 1 hr., LAB 0 hrs., Course fee \$20 - \$40*

An examination of selected topics or issues in media. Topics may differ each time the course(s) is/are offered. Students should consult the department chairperson for further information.

*Available only to Media Studies – Broadcasting Arts and Technology and Digital Media Technology majors.*

## Music

**MUS 011: BASIC MUSICIANSHIP I . . . . . N3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A pre-music theory course designed for music majors to develop reading skills through keyboard, sight-singing and ear-training. This course may not be used as a curriculum requirement for any major.

**MUS 101: CHORUS I. . . . .1 CREDIT****MUS 102: CHORUS II . . . . .1 CREDIT****MUS 103: CHORUS III. . . . .1 CREDIT****MUS 104: CHORUS IV . . . . .1 CREDIT***Open to all students**Required for Non Vocal Music students**LEC 0 hrs., LAB 4 hrs.*

This course is designed to develop a high standard of choral ensemble singing. Participants perform in at least one concert each semester.

**MUS 109: APPLIED MUSIC SECONDARY – VOICE I. . . . .1 CREDIT***Prerequisite: For Music emphasis students only or by Department permission***MUS 110: APPLIED MUSIC SECONDARY – VOICE II . . . . .1 CREDIT***Prerequisite: MUS-109***MUS 209: APPLIED MUSIC SECONDARY – VOICE III. . . . .1 CREDIT***Prerequisite: MUS-110***MUS 210: APPLIED MUSIC SECONDARY – VOICE IV. . . . .1 CREDIT***Prerequisite: MUS-209**LEC 1 hr., LAB 2 hrs.*

A four-semester sequence planned to develop vocal ability. Emphasizes vocal techniques, diction and sight-reading.

**MUS 112: INTRODUCTION TO ELECTRONIC MUSIC . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$40*

An exploration of the physical properties of sound, synthesizers, music recording, music arrangement, and the history of electronic music.

**MUS 114: AMERICAN MUSIC . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

A survey of American "Roots" music from the 19th century to the present. Early Anglo and African influences will be presented followed by the 20th century folk, gospel, Hispanic, various styles of country, bluegrass and related acoustic music, various styles of blues and jazz, Cajun and zydeco, early R&B, soul, and the beginnings of rock and roll.

**MUS 117: MUSIC THEORY I . . . . .3 CREDITS***Prerequisite: MUS 011 or departmental permission**Corequisites: MUS 125 (or MUS 109) and MUS 135**For Music students only***MUS 118: MUSIC THEORY II . . . . .3 CREDITS***Prerequisite: MUS 117**Corequisites: MUS 126 (or MUS 110) and MUS 136**For Music students only***MUS 215: MUSIC THEORY III. . . . .3 CREDITS***Prerequisite: MUS 118**Corequisites: MUS 225 (or MUS 209) and MUS 137**For Music students only***MUS 216: MUSIC THEORY IV . . . . .3 CREDITS***Prerequisite: MUS 215**Corequisites: MUS 226 (or MUS 210) and MUS 138**For Music students only**LEC 2 hrs., LAB 3 hrs.*

Designed to stress the fundamentals of musicianship to include the basic elements of sight-singing, ear-training, writing, playing, terminology, and form analysis.

**MUS 124: ELECTRONIC MUSIC II . . . . .3 CREDITS***Prerequisite: MUS 112**LEC 3 hrs., LAB 0 hrs., Course fee \$50*

A continuation of Introduction to Electronic Music with increased application of sound systems and MIDI systems. Students will produce recorded final projects.

**MUS 125: APPLIED MUSIC SECONDARY – PIANO I . . . . .1 CREDIT***Corequisites: MUS 117, MUS 135***MUS 126: APPLIED MUSIC SECONDARY – PIANO II . . . . .1 CREDIT***Prerequisite: MUS 125**Corequisites: MUS 118, MUS 136***MUS 225: APPLIED MUSIC SECONDARY – PIANO III . . . . .1 CREDIT***Prerequisite: MUS 126**Corequisites: MUS 215, MUS 137***MUS 226: APPLIED MUSIC SECONDARY – PIANO IV . . . . .1 CREDIT***Prerequisite: MUS 225**Corequisites: MUS 216, MUS 138**For Music students only**LEC 1 hr., LAB 2 hrs.*

A four-semester sequence designed to develop keyboard facility. Required of all music emphasis students whose principal instrument is not piano.

**MUS 127: PRINCIPLES OF STRINGS I . . . . .1 CREDIT***For Music students only**LEC 1 hrs, LAB 2 hrs.*

Designed to convey an understanding of the basic technical skills on violin studies with the first position.

**MUS 128: PRINCIPLES OF STRINGS II . . . . .1 CREDIT***Prerequisite: MUS 127**For Music students only**LEC 1 hrs., LAB 2 hrs.*

Designed to complete the study of basic violin, viola techniques and the understanding of the proper pedagogical approaches.

**MUS 129: MUSIC IN EARLY CHILDHOOD . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A course to offer the students a wide variety of meaningful experiences which provide a foundation for musical growth and understanding of early childhood music. This is a hands-on course in which students must participate.

**MUS 133: DEVELOPMENT OF MUSICAL THEATRE . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

An examination of the elements of the musical (singing, acting, dancing, song construction, story development) and an exploration of the beginnings of the musical theater from Europe to Broadway.

**MUS 135: APPLIED MUSIC PRIMARY I . . . . .1 CREDIT***For Music Emphasis Students Only**Corequisites: MUS 125 (or MUS 109) and MUS 117**Course fee \$150***MUS 136: APPLIED MUSIC PRIMARY II . . . . .1 CREDIT***Prerequisite: MUS 135**Corequisites: MUS 126 (or MUS 110) and 118**Course fee \$150***MUS 137: APPLIED MUSIC PRIMARY III . . . . .1 CREDIT***Prerequisite: MUS 136**Corequisites: MUS 225 (or MUS 209) and MUS 215**Course fee \$150***MUS 138: APPLIED MUSIC PRIMARY IV . . . . .1 CREDIT***Prerequisite: MUS 137**Corequisites: MUS 226 (or MUS 210) and MUS 216**For Music students only**LEC 0 hrs., LAB 1 hr., Course fee \$150*

Consists of one 50-minute private lesson per week (to be arranged) on student's primary instrument (or in voice). Students will be expected to attend performance seminars and participate in public recitals. These courses are classical in emphasis.

**MUS 139: WIND ENSEMBLE I . . . . .1 CREDIT****MUS 140: WIND ENSEMBLE II . . . . .1 CREDIT****MUS 141: WIND ENSEMBLE III . . . . .1 CREDIT****MUS 142: WIND ENSEMBLE IV . . . . .1 CREDIT***Prerequisite: Prior knowledge of instrument**LEC 0 hrs., LAB 4 hrs.*

Group performance on all instruments with standard and new repertoire. Emphasis on reading and musicianship.

**MUS 143: WORLD MUSIC & CULTURE . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

A survey of world folk music including material from Asia, the Middle East, Africa, Europe, North and South America. Lectures and discussions will be illustrated by recordings, DVD's, and on-line resources. Students may be invited to contribute course subject matter by bringing personally flavored music to be studied.

**MUS 145: CHAMBER CHOIR I . . . . . 1 CREDIT****MUS 146: CHAMBER CHOIR II . . . . . 1 CREDIT****MUS 147: CHAMBER CHOIR III . . . . . 1 CREDIT****MUS 148: CHAMBER CHOIR IV . . . . . 1 CREDIT***LEC 0 hrs., LAB 4 hrs.*

Performance of selected sacred and secular vocal chamber music. Students must have advanced vocal and technical ability. Participation in concerts and other scheduled appearances required. Memorization required.

**MUS 150: JAZZ HISTORY & STYLES . . . . . 3 CREDITS***LEC 3 hrs., LAB 0 hrs.**This course satisfies the Diversity/Global Perspective requirement.*

An examination of the styles and elements of this improvisational music from the 1860's to the present. This course focuses on the evolution of jazz from it's roots in the blues and spiritual to the emergence of contemporary fusion and avant-garde styles.

**MUS 152: PIANO I . . . . . 1 CREDIT****MUS 153: PIANO II . . . . . 1 CREDIT****MUS 154: PIANO III . . . . . 1 CREDIT****MUS 155: PIANO IV . . . . . 1 CREDIT***For non-music majors**LEC 1 hr., LAB 2 hrs.*

Group lessons in the fundamentals of piano playing. These courses include the study of scales, arpeggios, and simple accompaniments. Keyboard experience is not required. Designed specifically for the non-music major.

**MUS 159: GUITAR I . . . . . 1 CREDIT****MUS 160: GUITAR II . . . . . 1 CREDIT****MUS 161: GUITAR III . . . . . 1 CREDIT****MUS 162: GUITAR IV . . . . . 1 CREDIT***Open to all students**LEC 1 hr., LAB 2 hrs.*

Group guitar instruction in fundamental guitar techniques. Studies include plectrum and finger style, position reading, scales, and chord construction. Designed to accommodate non-guitar music students as well as non-music majors.

**MUS 163: ROCK HISTORY AND CULTURE . . . 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This course traces the evolution of rock music from 1955 to the present and examines the cultural impact of the music form on contemporary society.

**MUS 165: INTRODUCTION TO MUSIC RECORDING . . . . . 3 CREDITS***LEC 3 hrs., LAB 0 hrs., Course fee \$40*

An introduction to the commercial recording studio. Students will explore the equipment and techniques used in the recording of various types of contemporary music. Topics include studio acoustics and design, sound and hearing, microphones and microphone technique, recording console and signal flow, analog and digital recording systems, and signal processing. Students will receive hands-on experience on both analog and digital recording equipment during in-class demonstrations and workshops.

**MUS 166: INTRODUCTION TO MUSIC BUSINESS . . . . . 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A general overview of all areas of music business including demo tape promotion, contracts, managers, copyright laws, and publishing. Guest lecturers include prominent industry lawyers and agents.

**MUS 220: MUSIC BUSINESS II . . . . . 3 CREDITS***Prerequisite: MUS 166**LEC 3 hrs., LAB 0 hrs.*

This course will expand upon the concepts learned in MUS 166, Intro to Music Business and delve deeper into the areas of marketing and promotion, CD packaging, creation of a business entity, and website design for the purpose of self-promotion.

**MUS 167: MUSIC RECORDING II . . . . . 3 CREDITS***Prerequisite: MUS 165**Co requisite: MUS 180**LEC 3 hrs., LAB 0 hrs., Course fee \$75*

A continuation of MUS 165 Intro to Music Recording in which students will explore more complex recording situations through individual student projects. Students will receive hands-on experience in session set-up, miking, use of outboard signal processing, mixing, and production.

**MUS 170: SYMPHONY ORCHESTRA I . . . . . 1 CREDIT****MUS 171: SYMPHONY ORCHESTRA II . . . . . 1 CREDIT****MUS 172: SYMPHONY ORCHESTRA III . . . . . 1 CREDIT****MUS 173: SYMPHONY ORCHESTRA IV . . . . . 1 CREDIT***Prerequisite: Prior knowledge of instrument.**LEC 0 hrs., LAB 4 hrs.*

Performance of the classical symphonic repertoire for full orchestra. Rehearsals will be held one evening a week.

**MUS 176: AURAL COMPREHENSION I . . . . . 1 CREDIT***LEC 1 hr., LAB 2 hrs., Course fee \$35***MUS 177: AURAL COMPREHENSION II . . . . . 1 CREDIT***LEC 1 hr., LAB 2 hrs., Course fee \$35*



**MUS 178: AURAL COMPREHENSION III . . . . .1 CREDIT***LEC 1 hr., LAB 2 hrs., Course fee \$35***MUS 179: AURAL COMPREHENSION IV . . . . .1 CREDIT***LEC 1 hr., LAB 2 hrs., Course fee \$35*

An intensive aural experience designed to develop ear training skills through classroom activities and computer based work stations.

**MUS 180: MICROPHONE TECHNIQUES. . . . .2 CREDIT***Prerequisite: MUS 165 Intro to Music Recording**Co-requisite: MUS 167 Music Recording II**LEC 1 hr., LAB 3 hrs., Course fee \$75*

An in-depth study of the different techniques used for micing an array of instruments from woodwinds, brass, and strings, to drums and electric instruments. Students will study the design of dynamic and condenser microphones, special microphones used for certain instruments, sound comparison between different types of microphones, and microphone placement on instruments.

**MUS 182: AUDIO PRODUCTION TECHNIQUES .1 CREDIT***LEC 1hr., LAB 0hrs... Course fee \$75**Prerequisite: MUS 165, 167, 180*

An examination of the production techniques used in the recording of contemporary and classic music. The course will focus on the development of critical listening skills, as well as the use of different recording and mixing techniques in an effort to enhance the overall production value of a recording. Students will produce a recorded final project in which they will try to emulate the sound of a pre-existing recording.

**MUS 184: MUSICAL THEATRE PRODUCTION  
AND PERFORMANCE . . . . .3 CREDIT***LEC 2 hrs., LAB 3 hrs.*

Musical Theatre Production and Performance offers demanding training designed to prepare students for a career in musical theatre. Students will participate in all aspects of the production from technical elements to a final performance.

**MUS 201: JAZZ ENSEMBLE I . . . . .1 CREDIT****MUS 202: JAZZ ENSEMBLE II . . . . .1 CREDIT****MUS 203: JAZZ ENSEMBLE III . . . . .1 CREDIT****MUS 204: JAZZ ENSEMBLE IV . . . . .1 CREDIT***Prerequisite: Prior knowledge of instrument**LEC 0 hrs., LAB 4 hrs.*

Designed to provide an opportunity for experienced instrumentalists to study and perform standard and current jazz literature.

**MUS 214: FORM AND ANALYSIS . . . . .3 CREDITS***Prerequisites: MUS 117, 118, 215, 216**LEC 2 hrs., LAB 3 hrs.*

A study of larger forms which have evolved throughout music history. Emphasis on score reading of symphonies, large choral works, operas, chamber works and sonata repertoire.

**MUS 217: MUSIC HISTORY AND  
LITERATURE TO 1750. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

An in-depth study of music in Western civilization from ancient times through the Baroque period. Music from each period is discussed and analyzed.

**MUS 218: MUSIC HISTORY AND  
LITERATURE FROM 1750. . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A continuation of Music history and Literature from 1750. A study of music from the Late Baroque through the Romantic period. Includes analysis of representative works.

**MUS 221: CHAMBER ENSEMBLE I. . . . .1 CREDIT****MUS 222: CHAMBER ENSEMBLE II . . . . .1 CREDIT****MUS 223: CHAMBER ENSEMBLE III. . . . .1 CREDIT****MUS 224: CHAMBER ENSEMBLE IV. . . . .1 CREDIT***Prerequisite: Must play a wind, percussion, string, or keyboard instrument.**LEC 0 hrs., LAB 4 hrs.*

Designed to provide an opportunity for players of wind, string, percussion and keyboard instruments to study, rehearse and perform selected works from chamber music literature (consisting of two to ten players per ensemble). Sessions must be arranged.

**MUS 227: OPERETTA AND  
MUSICAL THEATRE I . . . . .1 CREDIT****MUS 228: OPERETTA AND  
MUSICAL THEATRE II. . . . .1 CREDIT****MUS 229: OPERETTA AND  
MUSICAL THEATRE III . . . . .1 CREDIT****MUS 230: OPERETTA AND  
MUSICAL THEATRE IV . . . . .1 CREDIT***LEC 0 hrs., LAB 4 hrs.*

A theatrical production is the final objective in the course. The students through rehearsal and performance, have a chance to have practical experiences with their art; i.e., staging, conducting, lighting, singing and general production work.

**MUS 233: INDEPENDENT STUDY IN MUSIC . . .1 CREDIT***Prerequisite: Permission of department chairperson**For Music students only.**LEC 1 hr., LAB 0 hrs, Course fee \$75*

This course is designed to allow the student who has a specialized interest or who is pursuing a topic at an advanced level to engage in rigorous individualized study. The study must be designed by the faculty member and student and must be approved by the department chairperson.

**MUS 234: INDEPENDENT STUDY IN MUSIC . . .3 CREDITS**

*Prerequisite: Permission of department chairperson*

*For Music students only.*

*LEC 3 hrs., LAB 0 hrs., Course fee \$75*

Independent Study in Music is designed to allow the student who has a specialized interest or who is pursuing a topic at an advanced level to engage in rigorous individualized study. The study must be designed by the student and a faculty member and must be approved by the department chairperson

**MUS 237: CABARET MUSIC THEATRE . . . . .1 CREDIT****MUS 238: CABARET MUSIC THEATRE II . . . . .1 CREDIT****MUS 239: CABARET MUSIC THEATRE III . . . . .1 CREDIT****MUS 242: CABARET MUSIC THEATRE IV . . . . .1 CREDIT**

*LEC 0 hr., LAB 4 hrs.*

This course in cabaret theatre will consider the "revue" type of theatrical production which has been popularized in productions in New York, Chicago, Los Angeles and on many college campuses throughout the country. A cabaret musical revue will be the final project.

**MUS 240: JAZZ GUITAR. . . . .1 CREDIT**

*LEC 1 hr., LAB 2 hrs.*

This course is recommended for guitar majors, jazz ensemble guitarists or those with equivalent skills. It will cover harmonic and melodic aspects of jazz improvisation in a solo or ensemble setting. Topics will include modes, arpeggios, and chord structure and inversions of seventh chords in all keys. Students must already have a working knowledge of the guitar i.e., bar chords, major/minor scales, some experience with notes and chord symbols. While this is not a class for beginner guitarists, beginner jazz players are welcome.

**MUS 241: GUITAR ENSEMBLE . . . . .1 CREDIT**

*LEC 1 hr., LAB 2 hrs.*

For guitar majors or those with equivalent skills (by permission of instructor or music instructor). Guitar Technique and fingerboard mastery will be discussed. Sight-reading will be developed in class and individual projects assigned. Students will explore the guitar chamber repertoire which includes duets, trios, and quartets as well as other combinations (i.e. guitar with flute, violin, or voice).

**MUS 243: MUSICAL THEATRE AUDITIONS . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This course introduces the students to the preliminary work involved in the techniques of auditioning. The protocol of auditioning including resume, agents, casting directors, scene reading and actual vocal selections will be covered in class.

**MUS 244: INDEPENDENT STUDY IN ELECTRONIC MUSIC I . . . . .1 CREDIT**

*Prerequisites: MUS 112, 124*

*LEC 1 hr., Lab 0 hrs., Course Fee \$75*

An exploration of analog synthesis techniques and devices designed to allow the student to pursue specialized topics to an advanced level. The study will be project oriented.

**MUS 245: INDEPENDENT STUDY IN ELECTRONIC MUSIC II . . . . .1 CREDIT**

*Prerequisites: MUS 112, 124, 244*

*LEC 1 hr., LAB 0 hrs., Course Fee \$75*

An exploration of the computer-based music workstation and digital technology designed to allow the student to pursue specialized topics to an advanced level. The study will be project oriented.

**MUS 248: ENJOYMENT OF MUSIC . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

Emphasis is placed on experiencing, discussing and realizing various musical styles throughout history to the present time. All music from the ancient to even today's most popular styles will be covered, but with specific attention as to how to listen and appreciate each musical genre. Students may even be invited to contribute to the course content by bringing personally favored music to be studied.

**MUS 249: PRACTICUM. . . . .1 CREDIT**

*Prerequisites: MUS 165, 167, 180, 182, 259*

*For Music students only.*

*LEC 1 hr., LAB 0 hrs., Course fee \$75*

Weekly lessons in a one-to-one or small group arrangement with a teacher will prepare the student in the techniques of professional music recording. Appropriate projects will be assigned to help the individual students develop his/her recording skills in various situations and with various types of equipment. A finished project will be produced by the student and judged in a jury session.

**MUS 250: INTERNSHIP IN MUSIC RECORDING. 1 CREDIT**

*Prerequisites: MUS 165, 167, 180, 182, 259*

*For Music students only*

*LEC 1 hr., LAB 0 hrs., Course fee \$100*

This course will assign the student to experience the actual working conditions in an established music recording studio facility. With the cooperation of the facility director, appropriate work projects will be assigned and the student judged on his/her level of knowledge, expertise and confidence in the various aspects of the music recording business.

**MUS 253: INDEPENDENT STUDY IN MUSIC II . . 1 CREDIT**

*Prerequisite: Permission of department chairperson*

*LEC 1 hr., LAB 0 hrs., Course fee \$75*

Independent Study in Music is designed to allow the student who has a specialized interest or who is pursuing a topic at an advanced level to engage in rigorous individualized study. The study plan must be designed by the student and a faculty member and must be approved by the department chairperson.

**MUS 254: INDEPENDENT STUDY IN MUSIC III .1 CREDIT**

*Prerequisite:* Permission of department chairperson

*LEC 1 hr., LAB 0 hrs., Course fee \$75*

Independent Study in Music is designed to allow the student who has a specialized interest or who is pursuing a topic at an advanced level to engage in rigorous individualized study. The study plan must be designed by the student and a faculty member and must be approved by the department chairperson.

**MUS 255: INDEPENDENT STUDY IN MUSIC IV .1 CREDIT**

*Prerequisite:* Permission of department chairperson

*LEC 1 hr., LAB 0 hrs., Course fee \$75*

Independent Study in Music is designed to allow the student who has a specialized interest or who is pursuing a topic at an advanced level to engage in rigorous individualized study. The study plan must be designed by the student and a faculty member and must be approved by the department chairperson.

**MUS 258: CONTEMPORARY MUSIC  
20TH-21ST CENTURY .....3 CREDITS**

*(Formerly MUS 213: Twentieth Century Music)*

*LEC 3 hrs., LAB 0 hrs.*

A study of musical styles, trends, and idioms, of the classical music in the 20th and 21st centuries. Students may be invited to contribute course subject matter by bringing personally favored music to be studied.

**MUS 259: HARD DISC RECORDING .....2 CREDITS**

*Prerequisite:* MUS 165, MUS 167 & MUS 180, or MUS 165, MUS 112 & MUS 124

*Co-requisite:*

*LEC 1 hr., LAB 3 hrs., Course fee \$75*

The student will learn about functions of a Pro Tools session, signal flow, editing functions, creating fades, mixing, plug-ins and processing power, automation, and burning CDs.

**MUS 291, 292: SPECIAL TOPICS IN MUSIC ...3 CREDITS**

*Prerequisite:* Departmental Permission

*LEC 3 hrs., LAB 0 hrs.*

A broad based review of musical topics ranging from a continuation of sight singing, ear training & keyboard harmony to technology based courses such as Live Sound, and Music for Film..

**Nursing****NUR 012: NURSING TRANSITION:  
ADVANCED PLACEMENT STATUS . N1 CREDIT**

*Prerequisite:* Advanced Placement students must meet admission criteria established by the department.

*Corequisite:* NUR 105, NUR 123

*LEC 1 hr., LAB 0 hrs.*

This is a mandatory course required of all students granted advanced placement into Nursing II. Emphasis will be placed on the conceptual framework of the CCM nursing program, use of the nursing process, communication skills, ethical and legal issues, and the role of the registered nurse. This course is the last component of the advanced placement process and is designed to facilitate a smooth transition for the student.

**NUR 105: FOUNDATIONS OF NURSING. ....1 CREDIT**

*Prerequisite:* Acceptance into Nursing I

*Corequisite:* BIO 101, NUR 121

*LEC 1 hr., LAB 0 hrs.*

This online course provides the foundational concepts on which nursing education and practice are built. Students will apply basic knowledge of these concepts as they begin to learn the practice of nursing. Historical, sociocultural, ethical and legal tenets are studied. Students gain an appreciation for the profession of nursing as well as awareness of the responsibility and accountability expected.

**NUR 106: MEDICAL TERMINOLOGY .....2 CREDITS**

*LEC 2 hr., LAB 0 hrs.*

This course is an online class with assignments and quizzes. The course is open to any student interested in learning the basic construction of medical words. The student will acquire a solid foundation to aid in retention of medical vocabulary and facilitate understanding of new terms. Prefixes, suffixes, and root words are introduced in a logical manner. A brief outline of the anatomy and physiology of each body system is presented, followed by the related pathophysiology. Included are terms describing diseases, disorders and related surgical, diagnostic and treatment terms. Students will become proficient in word building and recognition of medical terms as they relate to anatomy and physiology. Students will become familiar with terminology relevant to pharmacology as well as psychiatry.

**NUR 121: NURSING I .....6 CREDITS**

*Prerequisite:* MAT 011, MAT 014, or MAT 050 and MAT 016, ENG 025

*Corequisite:* BIO 101, NUR 105

*LEC 3 hrs., LAB 3 hrs., CLINICAL 6 hrs., Course fee \$275*

This course serves as the foundation for all subsequent nursing courses. The nursing process is introduced with concentration on the assessment of man's basic health needs, which are identified as psychosocial, elimination, rest and activity, safe environment, oxygen, and nutrition. The development and use of fundamental nursing skills and interventions are included. Concepts of critical thinking skills are introduced. Learning experiences are planned, using the classroom, campus laboratory and community clinical facilities.

**NUR 123: NURSING II. . . . .10 CREDITS***Prerequisites:* BIO 101, NUR 105, NUR 121*Corequisites:* BIO 102, CHM 117*LEC 6 hrs., LAB 0 hrs., CLINICAL 10 hrs., Course fee \$275*

This course focuses on the study of adults with a variety of commonly occurring medical-surgical problems that interfere with the ability to meet basic health needs. Students will utilize the nursing process to prioritize and provide appropriate nursing interventions for patients with higher acuity. Students will use assessment skills to develop appropriate nursing diagnoses, outcomes, and plans of care. Related theory, therapeutic communications skills, and nursing care skills will be employed in the provision of patient care in clinical facilities. Critical thinking skills are further developed.

**NUR 211: NURSING III . . . . .10 CREDITS***Prerequisites:* NUR 123, BIO 101, 102, CHM 117*Corequisite:* BIO 215*LEC 6 hrs., LAB 0 hrs., CLINICAL 10 hrs., Course fee \$275*

This course provides the student with the ability to further develop and apply critical thinking skills to patient care. The PERSON approach is utilized to provide care for patients with health problems resulting when the ability to meet one or more health needs is severely compromised. Evaluation of the outcomes of care given is a significant focus. Appropriate learning experiences are planned involving patients with multiple acute and chronic problems using the classroom, campus laboratory and various health care facilities.

**NUR 212: NURSING IV . . . . .10 CREDITS***Prerequisites:* NUR 211, BIO 215*Corequisite:* NUR 224*LEC 6 hrs., LAB 0 hrs., CLINICAL 10 hrs., Course fee \$275*

The focus of this course shifts from the study of the adult as an individual to that of the family and community. Concentration is placed on the health needs/problems of psychiatric and maternal/child patients. Utilization of the nursing process with special populations to address patient problems is provided across a range of health care settings. Knowledge of community, psychiatric, and maternal/child nursing is developed through critical thinking skills, group projects, case studies, and clinical experiences.

**NUR 220: PHARMACOLOGY FOR THE HEALTH PROFESSIONAL . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

This online course provides an overview of pharmacology with an emphasis on clinical application. The course is organized by drug classifications and emphasizes current usage, dosage recommendations, interactions, and implications for illness prevention and management. This course will be useful for any professional who administers medications or who works with clients for whom medications are a treatment modality.

**NUR 224: NURSING COLLOQUIUM . . . . .1 CREDIT***Prerequisite:* NUR 211*Corequisite:* NUR 212*LEC 1 hr., LAB 0 hrs.*

This course involves the discussion of contemporary topics and trends and their impact on nursing practice. Guest speakers, panel discussions, readings, and presentations are utilized in this course.

**Philosophy****PHL 111: INTRODUCTION TO PHILOSOPHY. .3 CREDITS***Prerequisite:* Placement Basis or ENG 025*LEC 3 hrs., LAB 0 hrs.*

An introduction to major themes of Western and Asian philosophical thought designed to give the student a grasp of the fundamental option which reflective persons face between opposing views of the world. The way in which this option was formed is traced, and the manner is shown in which this choice influences one's thinking about topics such as the nature of the self, truth, religion, morality and government.

**PHL 114: ETHICS . . . . .3 CREDITS***Prerequisite:* Placement Basis or ENG 025*LEC 3 hrs., LAB 0 hrs.*

A survey of the most influential efforts of Western philosophers to bring reason into the process of making appropriate and adequate choices in matters basic to the flourishing of human beings. Representative thinkers are read from Greco-Roman, religious, and secular perspectives. An effort is made to introduce moral viewpoints in a way which reflects the psychology of moral development and reveal their application to contemporary ethical problems.

**PHL 115: LOGIC . . . . .3 CREDITS***Prerequisite:* Placement Basis or ENG 025*LEC 3 hrs., LAB 0 hrs.*

Logic is the study of reasoning, good and bad. Good reasoning moves from credible statements to others that are well supported by them. Bad reasoning obscures this process. This course examines features that make reasoning good or bad, develops critical skills in recognizing formal and informal patterns of reasoning, and deepens one's talent in constructing arguments that exemplify good reasoning.

**PHL 180: INTRODUCTION TO PHILOSOPHY-HONORS. . . . .3 CREDITS***Prerequisite:* Permission of honors coordinator or department*LEC 3 hrs., LAB 0 hrs.*

This seminar follows, conceptually and historically, dominant lines of philosophical thinking on themes widely taken to be fundamental in Western and Asian culture. The course also compares and contrasts classical with contemporary perspectives.

**PHL 211: PHILOSOPHY OF THE PERSON . . .3 CREDITS***Prerequisite:* Placement Basis or ENG 025*LEC 3 hrs., LAB 0 hrs.*

A lecture-discussion course of classical readings from religious and humanist authors centering on related notions of human nature, person, self, self-actualization and freedom. An effort is made to assess some social policies by reference to an adequate notion of the person.



**PHL 212: PHILOSOPHY AND RELIGION . . . . .3 CREDITS**

*Prerequisite:* Placement Basis or ENG 025

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

This course surveys the development and interaction of world religions, such as Judaism, Christianity, Islam, African religions, Hinduism, Buddhism, Confucianism, Taoism, and Shintoism. It examines major figures, stories, rituals, and beliefs of the religions, and shows how they shape the lives of believers. Finally, it analyzes philosophical concepts such as God and gods, faith and reason, immortality, good and evil, karma, love, meditation, mysticism, and nirvana.

**PHL 215: BUDDHIST PHILOSOPHIES. . . . .3 CREDITS**

*Prerequisite:* A philosophy 100-level course, or permission of instructor.

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

An introduction to the diverse intellectual world of classical Buddhism from the perspective of academic philosophy, beginning with the life of Siddhartha Gautama and his teaching about the fact of suffering and his path to liberation from suffering. The main doctrines of the major traditions of Buddhism are surveyed, namely, Theravada, Mahayana and Vajrayana, with emphasis on Theravada. Pivotal concepts include karma, dharma, arhat, bodhisattva, sunyata and nirvana.

**PHL 221: PHILOSOPHY OF PLATO . . . . .3 CREDITS**

*Prerequisite:* Placement Basis or ENG 025, or permission of the instructor.

LEC 3 hrs., LAB 0 hrs.

Concentrated readings and in-depth discussion of several of the great dialogues of Plato, chosen from the following: Meno, Republic, Laws, Phaedo, Symposium, Phaedrus, Apology, and Crito.

**PHL 280: ANCIENT PHILOSOPHY - HONORS .3 CREDITS**

*Prerequisite:* Permission of honors coordinator or instructor

LEC 3 hrs., LAB 0 hrs.

This seminar critically examines the central ideas of Plato and Aristotle on knowledge, mind, body, freedom, nature, ethics, politics, and religion. The course also contrasts their ideas with those of other ancient philosophers, such as Pythagoras, Heraclitus, Parmenides, Zeno, Epicurus, Epictetus, Cicero, and Aurelius. Students develop the ability to formulate their own views on philosophical issues.

**PHL 291, 292: SPECIAL TOPICS  
IN PHILOSOPHY. . . . .3 CREDITS**

*Prerequisite:* A philosophy 100-level course, or permission of instructor.

LEC 3 hrs., LAB 0 hrs.

An examination of selected topics or issues in Philosophy. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

**Photography**

*Note: Those photography courses where students are required to provide a 35mm single lens reflex camera that is NOT "automatic only" are marked with an (\*). In classes with a "laboratory" designation students will need to purchase some supplies.*

**PHO 111: INTRODUCTION  
TO PHOTOGRAPHY . . . . .3 CREDITS(\*)**

A non-laboratory, non-studio basic digital photography course for non-visual arts majors. Camera and peripheral operation and critical understanding of photographs are taught. Students must complete weekly creative assignments using their own adjustable digital cameras and image editing software on their home computers. This is NOT a Photoshop™ course.

**PHO 112: EQUIPMENT, MATERIALS  
AND PROCESSES . . . . .3 CREDITS**

*Prerequisites:* MAT 011, PHO 115

LEC 3 hrs., LAB 0 hrs.

A non-studio science and technology course introducing light and photometry, sensitometry, chemistry, emulsions, physics, optics, camera design and reproduction problems.

**PHO 113: HISTORY OF PHOTOGRAPHY . . . . .3 CREDITS**

*Prerequisite:* ENG 025

LEC 3 hrs., LAB 0 hrs.

A survey of photographic history from its origin to the present day. Topics illustrated by presentations include the invention of photography, the photograph as document, the photograph as art, the natural landscape, the portrait, color photography and contemporary photography.

**PHO 115: PHOTOGRAPHY I . . . . .3 CREDITS(\*)**

LEC 2 hrs., LAB 3 hrs., Course fee: \$75 (\*)

A beginning photography course emphasizing the fundamentals of photographic language and creative visual problem solving. Courses designated "digital" solely use digital cameras and digital imaging technology. Courses designed "digital/film" use both traditional wet lab and digital technology. The "digital/film" course is recommended for photograph majors and the serious hobbyist.

**PHO 116: PHOTOGRAPHY II . . . . .3 CREDITS**

*Prerequisite:* PHO 115

LEC 2 hrs., LAB 3 hrs., Course fee \$75 (\*)

An intermediate black-and-white photography course that features critiques, film testing, fiber-based printing, basic lighting and photography in the digital domain.

**PHO 117: COLOR PHOTOGRAPHY I . . . . .3 CREDITS**

*Prerequisite:* PHO 115

LEC 2 hrs., LAB 3 hrs., Course fee \$75 (\*)

An introduction to color photographic materials including slides, negatives and the Macintosh computer. Includes color perception, composition/design, and color technology. This course will familiarize students with color materials and color management in the digital domain. Color theory, conventional images processing and digital image processing are covered.

**PHO 118: COLOR PHOTOGRAPHY II . . . . .3 CREDITS***Prerequisite: PHO 117**LEC 2 hrs., LAB 3 hrs., Course fee \$75 (\*)*

A course for photography technology majors that includes printing from the negative, learning advanced color photographic technology and completing comprehensive color photography assignments.

**PHO 119: CONTEMPORARY PHOTOGRAPHY. 3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

An in-depth look at photography and photographers practicing since 1950. Includes slide and video lectures, required field trips to museum and galleries, internet research and class presentations.

**PHO 204: DIGITAL IMAGING I . . . . .3 CREDITS***Prerequisite: PHO 115**LEC 2 hrs., LAB 3 hrs., Course fee \$75 (\*)*

An introductory studio course in photographic digital image processing. Includes an introduction to the Macintosh computer and instruction in Adobe Photoshop and related software programs and in the use of peripheral devices used in digital I/O.

**PHO 213: DOCUMENTARY PHOTOGRAPHY. .3 CREDITS***Prerequisite: PHO 115**LEC 2 hrs., LAB 3 hrs., Course fee \$75 (\*)*

An introduction to the methods, history, problems and opportunities of in-depth, fact-based photographic assignments and essays. Students will learn how to plan, engage, and complete in-depth documentary and journalistic photographic projects.

**PHO 215: LARGE FORMAT PHOTOGRAPH. . .3 CREDITS***Prerequisites: PHO 115**LEC 2 hrs., LAB 3 hrs., Course fee \$75**Note: Students will be required to purchase an appropriate light meter.*

The operation and basic technical mastery of the professional large format camera with an introduction to studio lighting.

**PHO 216: STUDIO LIGHTING I. . . . .3 CREDITS***Prerequisite: PHO 204, PHO 215**LEC 2 hrs., LAB 3 hrs., Course fee \$75 (\*)*

An introductory course in artificial lighting in the studio as applied to all camera formats.

**PHO 224: DIGITAL IMAGING II . . . . .3 CREDITS***Prerequisite: PHO 204**LEC 2 hrs., LAB 3 hrs., Course fee \$75*

A studio course for experienced digital imaging users.

**PHO 226: PORTFOLIO PREPARATION . . . . .3 CREDITS***Prerequisite: PHO 215**Corequisite: PHO 227**LEC 3 hrs., LAB 0 hrs., Course fee \$75*

The student prepares a final portfolio showing examples of photographic skills acquired in the photography technology program. Career opportunities and professional procedures will be explored through field trips and guest speakers. Formal and informal critiques will help the student define strengths and career goals. This course should be taken in the student's final semester.

**PHO 227: PROFESSIONAL STUDIO****PHOTOGRAPHY . . . . .3 CREDITS***Prerequisite: PHO 204, PHO 216**LEC 2 hrs., LAB 3 hrs., Course fee \$75*

The techniques and subjects used in professional studio photography. This course teaches lighting, large format color, subject control and high-resolution digital image capture.

**PHO 228: COOPERATIVE WORK EXPERIENCE –****PHOTOGRAPHY . . . . .3 CREDITS***Prerequisites: PHO 116 - Must be enrolled as a Photography major - Curriculum #3550**Corequisite: PHO 229.**LEC 3 hrs., LAB 0 hrs.*

Students work in photography-related jobs, receiving training. Photography Technology faculty members individually supervise students.

**PHO 229: COOPERATIVE WORK EXPERIENCE –****PHOTOGRAPHY-RELATED CLASS .1 CREDIT***Prerequisite: PHO 116 - Student must be enrolled as a Photography Technology Major. Curriculum #3550**Corequisite: PHO 228**LEC 1 hr., LAB 0 hrs.*

Related class designed to supplement Co-op Work Experience. Weekly meetings include discussion, written assignments and critical analysis of the work experience.

**PHO 290: INDEPENDENT STUDY I . . . . .3 CREDITS***Prerequisite: Permission from Photography Technology Faculty**LEC 2 hr., LAB 3 hrs. Course Fee \$75*

A project designed with a faculty advisor. The student is responsible for developing a statement of goals and objectives and submitting a summary project.

**PHO 291: SPECIAL TOPICS****IN PHOTOGRAPHY . . . . .3 CREDITS***Prerequisite: PHO 115**LEC 2, LAB 3, Course Fee \$50*

Topics in photography which are not included in the regularly scheduled curriculum. May include studio work, technical topics and/or critique.

**PHO 292: SPECIAL TOPICS****IN PHOTOGRAPHY . . . . .3 CREDITS***Prerequisite: PHO 115**LEC 2 hrs., LAB 3 hrs., Course fee \$50*

Studio work in selected topics or issues in photography.

**PHO 293: SPECIAL TOPICS****IN PHOTOGRAPHY . . . . .3 CREDITS***Prerequisite: PHO 115**LEC 3 hrs., LAB 0 hrs., Course fee \$50*

Studio work in selected topics or issues in photography.

## Physics

*Note: Students are expected to obtain an electronic scientific calculator for both in-class and out-of-class use on physics assignments.*

*NOTE: Computer usage and Internet access may be required in the following courses.*

### PHY 103: CONCEPTS OF PHYSICS . . . . .4 CREDITS

*Prerequisite: MAT 014, MAT 050 or passing score on the algebra section of the CCM Basic Skills Placement Test*

*LEC 3 hrs., LAB 2 hrs., Course fee \$35*

This is a one-semester examination of the basic concepts of kinematics and dynamics, conservation of energy, heat, and selected topics in electricity, magnetism and modern physics.

### PHY 111: TECHNICAL PHYSICS I . . . . .4 CREDITS

*Prerequisite: ENR 119 , ENR 124 and MAT 110*

*LEC 3 hrs., LAB 3 hrs., Course fee \$35*

This is the first course of a two-semester applied physics course covering particle kinematics, Newton's laws, oscillatory motion, conservation of energy, heat and the gas laws.

### PHY 112: TECHNICAL PHYSICS II . . . . .4 CREDITS

*Prerequisite: PHY 111*

*LEC 3 hrs., LAB 3 hrs., Course fee \$35*

This is the second course of a two-semester applied physics course covering the essentials of electricity and magnetism, and selected topics from fluid mechanics, wave theory and optics.

### PHY 118: METEOROLOGY. . . . .4 CREDITS

*Prerequisite: MAT 016, or equivalent*

*LEC 3 hrs., LAB 3 hrs., Course fee \$35*

This course is an introduction to meteorology. Topics include observing the weather, clouds and precipitation, winds and the circulation of the atmosphere, air masses and fronts, cyclones and anticyclones, historic weather events, hurricanes, thunderstorms and tornadoes, atmospheric stability, weather maps and weather forecasting, radar and Doppler radar, air pollution, climate and seasons. Laboratory work will include the analysis and understanding of weather maps, the measurement of meteorological variables as well as Internet activities.

### PHY 125: GENERAL PHYSICS I – LECTURE . .3 CREDITS

*Prerequisite: MAT 123*

*Corequisite: PHY 126*

*LEC 3 hrs., LAB 0 hrs.*

This is the first course of a two-semester sequence in general physics. Topics include kinematics and dynamics of translational and rotational motion, conservation of energy, conservation of momentum, fluid statics and dynamics, and heat.

### PHY 126: GENERAL PHYSICS I - LAB . . . . .1 CREDIT

*Corequisite: PHY 125*

*LEC 0 hrs., LAB 3 hrs., Course fee \$35*

This is the first course of a two-semester sequence in laboratory physics for students who are enrolled concurrently in General Physics I (PHY 125). Laboratory experiments will demonstrate concepts covered in the accompanying lecture course, while introducing techniques of observation, data recording, data analysis and formal communication of experimental results.

### PHY 127: GENERAL PHYSICS II – LECTURE. .3 CREDITS

*Prerequisites: PHY 125 and 126*

*Corequisite: PHY 128*

*LEC 3 hrs., LAB 0 hrs.*

This is the second course of a two-semester sequence in general physics. Topics include vibratory and wave motion, electricity, magnetism, optics and essentials of modern physics.

### PHY 128: GENERAL PHYSICS II - LAB. . . . .1 CREDIT

*Prerequisites: PHY 126 and 125*

*Corequisite: PHY 127*

*LEC 0 hrs., LAB 3 hrs., Course fee \$35*

This is the second course of a two-semester sequence in laboratory physics for students who are enrolled concurrently in General Physics II (PHY 127). Experiments will demonstrate concepts covered in the accompanying lecture course, while continuing to develop laboratory skills introduced in PHY 126.

### PHY 130: ENGINEERING PHYSICS I. . . . .4 CREDITS

*Prerequisite: MAT 131*

*Corequisite: MAT 132*

*LEC 4 hrs., LAB 0 hrs.*

This is the first course of a three-semester, calculus-based physics sequence. Topics include particle kinematics and dynamics in one and in two dimensions, work and energy, impulse and momentum, rotational motion, kinematics and dynamics of rigid bodies and elements of thermodynamics.

### PHY 133: ENGINEERING PHYSICS II . . . . .4 CREDITS

*Prerequisites: PHY 130 and MAT 132*

*Corequisites: MAT 230 and PHY 134*

*LEC 4 hrs., LAB 0 hrs.*

This is the second course of a three-semester, calculus-based physics sequence. Topics include simple harmonic motion, waves, electromagnetic theory and applications, Maxwell's equations in integral form.

### PHY 134: LABORATORY FOR ENGINEERING PHYSICS II . . . . .1 CREDIT

*Prerequisite: PHY 130*

*Corequisite: PHY 133*

*LEC 0 hrs., LAB 3 hrs., Course fee \$35*

This is the first course of a two-semester laboratory sequence designed for students who are enrolled concurrently in the Engineering Physics lecture sequence. The course emphasizes fundamental physics principles through experimentation, principles

of experiment design, instrumentation, techniques of observation, data recording, data analysis, and formal communication of experimental results. Experiments study selected mechanical, electrical and magnetic phenomena.

### **PHY 232: ENGINEERING PHYSICS III. . . . .3 CREDITS**

*Prerequisites: PHY 133 and MAT 230*

*Corequisite: PHY 233*

*LEC 3 hrs., LAB 0 hrs.*

This is the final course of a three-semester, calculus-based physics sequence. Topics include geometric optics, Maxwell's equations in differential form, electromagnetic radiation and fundamentals of physical optics, the development of the Schrodinger Equation approach to quantum mechanics and selected applications of quantum theory to the understanding of atomic and nuclear structure.

### **PHY 233: LABORATORY FOR ENGINEERING PHYSICS III. . . . .1 CREDIT**

*Prerequisite: PHY 134*

*Corequisite: PHY 232*

*LEC 0 hrs., LAB 3 hrs., Course fee \$35*

This course is a continuation of the Engineering Physics laboratory sequence. The course continues to develop professional laboratory technique through experiments on selected topics in geometric optics, physical optics and modern physics.

## **Political Science**

### **POL 111: AMERICAN GOVERNMENT. . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

A study of the myths and realities of the American political system. The course focuses on the constitutional development of the American system of government, the political, policymaking and implementing structures of American government, and the problem of representative government in the United States. Consideration is given to contemporary domestic and foreign policy issues.

### **POL 222: CONSTITUTIONAL LAW . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

This is a survey course which examines the constitutional development of the U.S., the growth of American constitutional doctrine and law, and the judicial process within which constitutional doctrine and philosophy are formulated and given the force of law. The constitutional basis for the government's powers and the liberties of the individual are examined within this framework. Emphasis is given to landmark U.S. Supreme Court decisions.

### **POL 231: STATE AND LOCAL GOVERNMENT. 3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

A survey of the organizational structure and policies of local, county, and state governments, with special emphasis on New Jersey. Students become acquainted with many of the major issues facing metropolitan, urban and suburban governing bodies.



### **POL 240: INTERNATIONAL POLITICS . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

An introduction to the nature and problems of international politics. Analysis and consideration is given to the development and contemporary status of nation-states, their relationships, and the elements of power politics. Emphasis is given to problems of war and peace, the nature of conflict and the various approaches to world peace.

### **POL 245: COMPARATIVE GOVERNMENT . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

An examination of the variety of governmental systems, both western and non-western, whose importance is reflected in the increasing interdependent nature of the world community. The political systems of the traditional European powers (Great Britain, Germany, and Russia) and strategically important non-western nation-states (Japan, China, India, and Mexico) will be reviewed. Trends in government in the developing countries will be studied as well.

### **POL 270: CIVIL LIBERTIES – BASIC RIGHTS AND FREEDOMS. . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

An analysis and examination of individual rights within a democratic society. Focus is on such major issues as freedom of expression and religion, political and racial equality, criminal justice, the Bill of Rights and its applicability to the states. The role of the judiciary, particularly the U.S. Supreme Court, is analyzed.

### **POL 291, 292: SPECIAL TOPICS IN POLITICAL SCIENCE. . . . .3 CREDITS**

*Prerequisite: An introductory course in Political Science*

*LEC 3 hrs., LAB 0 hrs.*

An examination of selected topics or issues in Political Science. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.



## Psychology

*Note: In addition to the following Psychology courses, ENG 223: Literature and Psychology may be used as a Social Science elective.*

### **PSY 112: CAREER DEVELOPMENT: THEORY AND PRACTICE . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

An in-depth exploration of the role of societal norms and educational and psychological factors upon individual career choices. Students establish, change or confirm career goals and learn skills necessary for ongoing career and life planning.

### **PSY 113: GENERAL PSYCHOLOGY . . . . .3 CREDITS**

*LEC 3 hrs., LAB 0 hrs.*

An introductory survey of the scientific studies of human behavior on the following topics: human development, physiology, learning, individual differences, motivation, perception, personality, abnormal and social behavior. The course is designed to prepare the student for further study of the broad spectrum of psychology.

### **PSY 116: PSYCHOLOGY AND EDUCATION OF THE DISABLED . . .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

A study of the social, emotional, physical, and learning characteristics of individuals with disabilities. Methods of diagnosis and differentiation, curriculum, teaching techniques, resources, and integration into the community are examined.

### **PSY 117: HEALTH PSYCHOLOGY . . . . .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

This course examines the effects of the physical, mental, cultural and environmental stressors on one's mental and physical health. Modern and ancient beliefs regarding the interaction of the mind and body are presented.

### **PSY 180: GENERAL PSYCHOLOGY – HONORS . . . . .3 CREDITS**

*Prerequisite: Permission of honors coordinator or department*

*LEC 3 hrs., Lab 0 hrs.*

This honors course is a more advanced General Psychology course which includes, but is not restricted to, a more advanced text, emphasis on research methodology, and lectures which explore subject matter in greater depth. The course introduces students to the scientific study of behavior with emphasis on critical thinking skills. Students will improve their abilities to analyze data objectively both in written and oral presentations. The General Psychology Honors section can be used to fulfill the Honors Social Science elective. Admission to the course is based on the recommendation of the Honors Program Coordinator.

### **PSY 211: PSYCHOLOGY OF ADJUSTMENT . .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

This course moves beyond the standard theories into the realities of modern American adjustment. It examines the frustrations and

complexities of daily living and explores some possible alternatives. A multicultural approach is encouraged.

### **PSY 213: CHILD PSYCHOLOGY . . . . .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

The course consists of the interplay of biological, psychological, and cultural forces that shape the growing child from prenatal development through adolescence. Students will learn to interpret relevant research using a critical-thinking approach.

### **PSY 214: ADOLESCENT PSYCHOLOGY . . . .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

An examination of adolescence, the transitional period between childhood and adulthood. Issues to be covered include the adolescent in the context of family, school and work environments, emotional and cognitive changes and the maladapted adolescent.

### **PSY 215: CHILD PSYCHOLOGY – HONORS . .3 CREDITS**

*Prerequisites: PSY 113 or PSY 180 and permission of honors coordinator or department*

*LEC 3 hrs., LAB 0 hrs.*

This honors course will consist of the interplay of biological, psychological, and cultural forces that shape the growing child from prenatal development through adolescence. Students will learn to interpret relevant research using a critical thinking approach.

### **PSY 217: EDUCATIONAL PSYCHOLOGY . . . .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

This course introduces the student to psychological theory as it applies to teaching and learning. Topics include learning theory, motivation, tests and measurements, classroom management and teaching students with special needs. Educational Psychology is strongly recommended for students pursuing a career in teaching.

### **PSY 218: CROSS-CULTURAL PSYCHOLOGY .3 CREDITS**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

*This course satisfies the Diversity/Global Perspective requirement.*

The student will be exposed to the psychological experiences and individual differences in cognitive, emotional and behavioral development of individuals who represent diverse populations within the United States and will learn how one's self-perception and the perception of others affects their well-being.

### **PSY 219: DEVELOPMENTAL PSYCHOLOGY – THE HUMAN LIFESPAN**

*Prerequisite: PSY 113*

*LEC 3 hrs., LAB 0 hrs.*

The course will consider the developing person from conception through death in terms of biosocial, cognitive and psychological development and discuss how these three domains interact. Additionally, it will consider how contextual issues such as age, gender, culture, socioeconomic status and ethnicity broaden our understanding of human development.

**PSY 221: PSYCHOLOGY OF PERSONALITY . .3 CREDITS***Prerequisite: PSY 113**LEC 3 hrs., LAB 0 hrs.*

An in-depth discussion of major personality theories and relevant research. There is a focus on application to case studies and life experiences.

**PSY 225: THE MALADAPTED PERSONALITY .3 CREDITS***Prerequisite: PSY 113**LEC 3 hrs., LAB 0 hrs.*

Considers the tools involved in distinguishing abnormal from normal behavior. Surveys the range of mental disorders included in the American Psychiatric Association's Diagnostic and Statistical Manual including: anxiety disorders, depression, addictions, problems of children and the elderly, deviance and schizophrenia. Covers modern treatment interventions.

**PSY 229: COMMUNITY MENTAL HEALTH . . .3 CREDITS***Prerequisite: PSY 113 or an introductory course in Sociology**LEC 3 hrs., LAB 0 hrs.*

A survey of institutional and community-based mental health programs of prevention and treatment, sources of environmental stress, identification of high risk groups, and the role of professionals and volunteers in the field.

**PSY 231: INDUSTRIAL PSYCHOLOGY . . . . .3 CREDITS***Prerequisite: PSY 113**LEC 3 hrs., LAB 0 hrs.*

An in-depth examination of topics pertaining to human behavior in the workplace including: personnel selection, training, evaluation, management, employee motivation and job satisfaction. Field assignments and class projects provide opportunities to interview managers, conduct job analyses, prepare personnel surveys and engage in team-building exercises.

**PSY 281: PSYCHOLOGY OF PERSONALITY–  
HONORS . . . . .3 CREDITS***Prerequisites: PSY 180 or PSY 113 and permission of honors coordinator or department**LEC 3 hrs., Lab 0 hrs.*

This honors course will consist of a deeper analysis of the major personality theories and their application to case studies. Biological as well as social perspectives on the development of the self will be covered. Relevant issues including achievement motivation, power, gender, relationships, and health are discussed. Research and clinical examples as well as personal growth exercises will be utilized to promote critical thinking and to facilitate the application of theoretical concepts to the student's everyday life experiences.

**PSY 290: INDEPENDENT STUDY  
IN PSYCHOLOGY . . . . .3 CREDITS***Prerequisite: Permission of department chairperson**LEC 3 hrs., LAB 0 hrs.*

The design, development, and implementation of individual research from formulation of hypothesis to analysis of results in the field of psychology.

**PSY 291: SPECIAL TOPICS  
IN PSYCHOLOGY . . . . .3 CREDITS***Prerequisite: PSY 113**LEC 3 hrs. LAB 0 hrs.*

An examination of selected topics or issues in Psychology. Topics differ each time the course is offered. Students should consult the department chairperson for further information.

**PSY 292: HONORS  
ABNORMAL PSYCHOLOGY . . . . .3 CREDITS***Prerequisite: PSY 113 or PSY 180 and permission from Honors Coordinator or department.**LEC 3 hrs. LAB 0 hrs.*

This honors course is an in-depth coverage of the assessment, diagnosis and treatment of psychological disorders as categorized by the American Psychiatric Association's Diagnostic and Statistical Manual. Students are required to complete a research project using the American Psychological Association format.

**Public Administration****PUB 111: PUBLIC ADMINISTRATION . . . . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

A survey of the practices and political relationships in public administration. Leadership, decision-making, personnel, and budgetary functions within governmental agencies are examined. The role of the public administrator in contemporary government is analyzed. The implementation of public policy at all levels of government, with emphasis on state and municipal institutions, is covered.

**PUB 250: FIELD EXPERIENCE –  
PUBLIC ADMINISTRATION . . . . .3 CREDITS***Public Administration Majors Only**Prerequisite: PUB 111**LEC 3 hrs., LAB 0 hrs.*

The student is expected to participate in the activities of an administrative agency under the joint supervision of a faculty member and the agency. Introduction and review sessions are conducted by the faculty coordinator.

**PUB 291 & 292: SPECIAL TOPICS IN  
PUBLIC ADMINISTRATION. . .3 CREDITS***LEC 3 hrs., LAB 0 hrs.*

An examination of selected topics of issues in Public Administration. Topics differ each time the course is offered. Students should consult the department chairperson for further information.

## Radiography

### **RAD 100: INTRODUCTION TO RADIOGRAPHY. 2 CREDITS**

*Prerequisite:* Admission to Professional Phase Radiography program

*Corequisites:* RAD 104, RAD 107, MAT 140

*LEC 2 hrs. LAB 0 hrs.*

Introduction to Radiography is the study of the fundamental elements of the health system, patient care and the profession of Radiography. The concepts of ethics, law, medical asepsis, vital signs, communicable disease, and medical emergencies will be presented in this course.

### **RAD 104: PRINCIPLES OF RADIOGRAPHY I. .4 CREDITS**

*Prerequisite:* Admission to Professional Phase Radiography program

*Corequisites:* BIO 101, RAD 100, RAD 107, MAT 140

*LEC 3 hrs LAB 3 hrs Course fee \$125*

This course is designed to provide the student with the necessary theory, concepts, and hands-on experience in performing specific diagnostic procedures. Patient positioning, equipment manipulation, radiation protection techniques, appropriate patient care techniques and critique of radiographic images are presented in this course. Body areas to be covered include chest, abdomen, upper and lower extremities.

### **RAD 107: RADIOGRAPHY CLINICAL PRACTICE I . . . . .1 CREDIT**

*Prerequisite:* Admission to Professional Phase Radiography program

*Corequisites:* RAD 100, RAD 104, MAT 140

*LEC 0 hrs LAB 8 hrs Course fee \$175*

This course will provide the student with an opportunity to apply concepts learned in Radiography I and Introduction to Radiography. Some of the tasks will be operating equipment appropriately, applying basic patient care and positioning patient accurately.

### **RAD 110: RADIATION BIOLOGY AND PHYSICS . . . . .3 CREDITS**

*Prerequisites:* RAD 100, RAD 104, RAD 107, MAT 140

*Corequisites:* RAD 114, RAD 117

*LEC 3 hrs. LAB 0 hrs.*

The study of physics and electronics involved in the production, use and control of the various electromagnetic energies used in medical and diagnostic applications.

### **RAD 114: PRINCIPLES OF RADIOGRAPHY II .4 CREDITS**

*Prerequisites:* RAD 100, RAD 104, RAD 107, MAT 140

*Corequisites:* BIO 102, RAD 110, RAD 117

*LEC 3 hrs., LAB 3 hrs., Course fee \$125*

Principles of Radiography II reinforces basic concepts presented in Principles of Radiography I. Body areas to be covered include the hip, pelvis, bony thorax, entire spine, upper and lower GI tract, biliary system and the urinary system.

### **RAD 117: RADIOGRAPHY CLINICAL PRACTICE II . . . . .2 CREDITS**

*Prerequisite:* RAD 107, RAD 100, RAD 104, MAT 140

*Corequisites:* RAD 110, RAD 114

*LEC 0 hrs., LAB 16 hrs. per week, Course fee \$175*

The student will be allowed the opportunity to put into practice the course material introduced in this and previous semesters. Opportunities for more responsibility and independence with previously learned procedures are provided. Students will demonstrate competency of procedures learned in Radiography I. Also included is film critique in which the student will evaluate radiographs.

### **RAD 120: INTERMEDIATE CLINICAL PRACTICE . . . . .3 CREDITS**

*Prerequisite:* RAD 117, RAD 114, RAD 110

*LEC 0 hrs LAB 32 hrs per week, Course fee \$175*

This twelve-week clinical experience will allow the student the opportunity to put into practice and demonstrate competency of procedures learned in Principles of Radiography I and II. A weekly film critique class for students to evaluate radiographs will also be included.

### **RAD 200: PATHOLOGY FOR RADIOGRAPHY .2 CREDITS**

*Prerequisite:* RAD 120

*Corequisites:* RAD 204, RAD 213

*LEC 2hrs LAB 0 hrs.*

This pathology course is an assessment of medical and surgical diseases designed to familiarize the student with changes caused by disease in relationship to radiography. Student projects, associated film presentations and critiques are also included.

### **RAD 204: PRINCIPLES OF RADIOGRAPHY III . 4 CREDITS**

*Prerequisite:* RAD 120

*Corequisites:* RAD 207, RAD 213

*LEC 3 hrs LAB 3 hrs Course fee \$125*

Principles of Radiography III is a study of the anatomy and positioning of the skull and facial bones. Pediatric, geriatric, trauma and mobile radiography will also be included.

### **RAD 207: RADIOLOGIC SPECIAL IMAGING . .3 CREDITS**

*Prerequisite:* RAD 120

*Corequisites:* RAD 204, RAD 213

*LEC 3 hrs LAB 0 hrs.*

This course provides the student with a basic understanding of the more advanced and complex diagnostic procedures. The student will be introduced to such procedures as, but not limited to, myelography, arthrography, venography, and hysterosalpingography. The basic concepts of pharmacology, venipuncture, and contrast agents will be included.

**RAD 210: RADIOGRAPHIC EXPOSURE . . . . .3 CREDITS**

*Prerequisite:* RAD 110, RAD 120

*Corequisites:* RAD 204, RAD 207

*LEC 3 hrs LAB 0 hrs.*

This course will acquaint the student with the many methods of routine and special technical factors available to radiographers to create diagnostic radiographs. Emphasizing the various accessory devices that may affect radiograph production, each student will understand how technique can significantly affect image quality. The student will understand what technical factors can safely be used, aware that radiation physics, radiation protection and quality assurance are interlaced with the principles of radiographic exposure. In addition, upon completion of this course the student will be able to construct a functional safe technique chart.

**RAD 213: RADIOGRAPHY  
CLINICAL PRACTICE III . . . . .2 CREDITS**

*Prerequisite:* RAD 120, RAD 114, RAD 117

*Corequisites:* RAD 204, RAD 207, RAD 210

*LEC 0 hrs., LAB 16 hrs. per week, Course fee \$175*

The student will be allowed the opportunity to put into practice the course material introduced in this and previous semesters. It will also give the student more responsibility and independence with procedures that have been deemed competent. Also included is film critique in which the student will evaluate radiographs.

**RAD 220: PRINCIPLES OF RADIOGRAPHY IV . 3 CREDITS**

*Prerequisites:* RAD 204, 213, RAD 207, RAD 200, RAD 210

*Corequisite:* RAD 227

*LEC 2 hrs LAB 2 hrs., Course Fee \$125*

The student will become acquainted with the various components to a radiologic quality assurance program stressing the significant role a quality assurance program must play in the field of radiography. The student will also study the effect of various appropriate types of electromagnetic radiation and their effect upon living tissues and stresses the importance of radiation protection for patients and personnel. A complete review of all radiography procedures will also be discussed.

**RAD 224: ADVANCED IMAGING . . . . .2 CREDITS**

*Prerequisite:* RAD 207, RAD 200, RAD 210, RAD 204, RAD 213

*Corequisites:* RAD 220, RAD 227

*LEC 2 hrs., LAB 0 hrs.*

The course presents the advanced imaging techniques required by nuclear medicine, diagnostic medical sonography, radiation therapy, mammography, computed tomography and magnetic resonance imaging. The basic concepts and principles of cardiac and vascular interventional radiography will also be discussed.

**RAD 227: RADIOGRAPHY  
CLINICAL PRACTICE IV . . . . .2 CREDITS**

*Prerequisite:* RAD 213, RAD 207, RAD 200, RAD 210, RAD 204

*Corequisites:* RAD 220, RAD 224

*LEC 0 hrs., LAB 16 hrs. per week, Course fee \$175*

This course provides the student with an opportunity to refine skills learned in previous radiography clinical courses. Continuous practice is performed to improve technique and procedures. Students will complete all remaining competencies for the program.

**RAD 230: ADVANCED CLINICAL PRACTICE . .3 CREDITS**

*Prerequisite:* RAD 227, RAD 224, RAD 220

*LEC 0 hrs., LAB 32 hrs. per week, Course fee \$175*

This twelve-week course provides the student the opportunity to exercise independent judgment and discretion in the technical performance of medical imaging procedures. Students will complete the terminal competency evaluations for the program. This final session of clinical education ensures that the student is ready for employment.

**Respiratory Therapy****RTH 199: RESPIRATORY THERAPEUTICS . . .5 CREDITS**

*Prerequisite:* Completion of pre-professional phase of Respiratory Therapy program and permission of Program Coordinator

*LEC 4 hrs., LAB 3 hrs., Course fee \$125*

An introduction to respiratory care, including history of the profession, ethical and legal responsibilities of the respiratory therapist; medical terminology, basic respiratory care procedures including the physics, physiology and administration of medical gas therapy, and basic patient communication and assessment skills. Basic respiratory care procedures, humidity and aerosol therapy, hyperinflation therapy, chest physiotherapy and bronchial hygiene; an overview of microbiology as applied to respiratory care; infection control; and equipment sterilization procedures.

**RTH 202: CARDIOPULMONARY  
PHARMACOLOGY . . . . .2 CREDITS**

*Prerequisite:* CHM 117, 118 and Permission of Program Coordinator

*LEC 2 hrs., LAB 0 hrs.*

An overview of general pharmacology, including routes of administration, federal regulations, dosages and calculations, and safety precautions; an in-depth study of drugs administered to the respiratory patient, including chemical structure, mechanism of action, indications, contraindications, physiologic effects and side-effects.

**RTH 203: CARDIOPULMONARY  
PHYSIOLOGY . . . . .2 CREDITS**

*Prerequisite:* BIO 101, 102 and permission of Program Coordinator

*LEC 2 hrs., LAB 0 hrs.*

A study of physiologic mechanisms of the cardiopulmonary system, including a review of the anatomy of the pulmonary and circulatory systems; ventilatory mechanics, gas diffusion, physiology of internal and external respiration, oxygen transport, carbon dioxide elimination, acid-base balance, ventilation perfusion relationships; and the neurologic control of ventilation.

**RTH 204: CARDIOPULMONARY  
EVALUATION . . . . .3 CREDITS**

*Prerequisites:* RTH 199, 202, 203, 210

*Corequisites:* RTH 205, 206, 211

*LEC 2 hrs., LAB 3 hrs., Course fee \$125*

Techniques of patient assessment and diagnostic evaluation of the cardiopulmonary system, including physical assessment, arterial blood gas analysis, pulmonary function testing, noninvasive monitoring of oxygenation and ventilation; an overview of laboratory tests, chest radiographs, electrocardiograph testing and interpretation and hemodynamic monitoring.



**RTH 205: CARDIOPULMONARY  
PATHOPHYSIOLOGY. . . . .2 CREDITS**

*Prerequisites:* RTH 203 and permission of Program Coordinator  
*LEC 2 hrs., LAB 0 hrs.*

An overview of the pathophysiology of diseases of the cardiopulmonary system with an emphasis on pathophysiologic processes such as hypoxemia, hypoventilation, diffusion defects and ventilation perfusion mismatch; a survey of diseases encountered by the respiratory therapist, including pathophysiology, diagnostic methods and findings, clinical manifestations, treatment and prognosis.

**RTH 206: MECHANICAL VENTILATION . . . . .4 CREDITS**

*Prerequisites:* RTH 199, 202, 203, 210

*Corequisites:* RTH 204, 205, 211

*LEC 3 hrs., LAB 3 hrs., Course fee \$125*

Techniques of airway management and the provision of mechanical ventilation; includes types of airways and appropriate uses; the physics and physiology of mechanical ventilation; classification of mechanical ventilators; indications for clinical application and complications of mechanical ventilation; management and monitoring of the patient requiring ventilatory support; and appropriate methods of withdrawing ventilatory support.

**RTH 207: NEONATAL AND  
PEDIATRIC RESPIRATORY CARE . .2 CREDITS**

*Prerequisites:* RTH 204, 205, 206, 211

*Corequisites:* RTH 292, 212

*LEC 2 hrs., LAB 0 hrs.*

An overview of fetal development of the cardiopulmonary system with an emphasis on circulatory transitions and respiratory complications occurring at birth and in the neonatal period; a review of neonatal and pediatric respiratory disorders with an emphasis on clinical findings and treatment; a survey of respiratory care procedures as applied to the neonatal and pediatric patient, including oxygen therapy, humidity and aerosol therapy, diagnostic testing and mechanical ventilation.

**RTH 210: CLINICAL PRACTICE I. . . . .3 CREDITS**

*Corequisites:* RTH 199, 202, 203

*LEC 0 hrs., LAB 9 hrs., Course fee \$175*

A supervised clinical application of the respiratory care procedures covered in Respiratory Therapeutics including chart review, patient and health professional communication, basic patient assessment, assembly and monitoring of oxygen therapy, aerosol and humidity therapy, aerosolized drug administration, hyperinflation therapy, bronchial hygiene and evaluation of patient response.

**RTH 211: CLINICAL PRACTICE II . . . . .3 CREDITS**

*Prerequisites:* RTH 199, 202, 203, 210

*Corequisites:* RTH 204, 205, 206

*LEC 0 hrs., LAB 9 hrs., Course fee \$175*

Continued refinement of the skills covered in Clinical Practice I, in a general care environment, with an emphasis on clinical competence in providing basic respiratory care; followed by an introduction to the critical care environment and to respiratory care of the critically ill patient, with an emphasis on patient assessment and monitoring skills, and patient safety. Supervised application of the skills covered in Mechanical Ventilation and Cardiopulmonary Evaluation, including specialty rotations in ECG, the operating room, pulmonary function testing and blood gas laboratory, and physician offices.

**RTH 212: CLINICAL PRACTICE III. . . . .4 CREDITS**

*Prerequisites:* RTH 204, 205, 206, 211

*Corequisites:* RTH 207, 292

*LEC 0 hrs., LAB 12 hrs., Course fee \$300*

Continued refinement of the skills needed to function in a critical care environment with an emphasis on clinical competence in hemodynamic and advanced monitoring and management of the patient on mechanical ventilation. An emphasis is placed on interaction with other members of the health care team, patient care planning, clinical decision making and independent practice. Includes specialty rotations in neonatal and pediatric respiratory care, post open heart recovery, and home care. The course fee includes the cost of the required National Board of Respiratory Care Self-Assessment Examination (NBRC SAE).

**RTH 292: SPECIAL TOPICS  
IN RESPIRATORY CARE . . . . .2 CREDITS**

*Prerequisites:* RTH 204, 205, 206, 211

*Corequisites:* RTH 207, 212

*LEC 2 hrs., LAB 0 hrs.*

A survey of current events and state-of-the-art modalities in respiratory care; includes respiratory care in non-traditional settings, cardiopulmonary rehabilitation, controversies in clinical practice, and changes in health care affecting the respiratory care profession. Students are required to complete advanced cardiac life support (ACLS) certification through the American Heart Association and Neonatal Resuscitation Program (NRP) through the American Academy of Pediatrics (AAP).

**Science**

*NOTE: Computer usage and Internet access may be required in the following courses.*

**SCI 101: NATURAL SCIENCE . . . . .3 CREDITS**

*LEC 2 hrs., LAB 2 hrs., Course fee \$30*

Timely topics for discussion and analysis are selected from the general areas of physics, chemistry, meteorology, and astronomy. Emphasis is conceptual rather than mathematical.

**SCI 106: INTRODUCTION TO ASTRONOMY . .3 CREDITS**

*LEC 2 hrs., LAB 2 hrs., Course fee \$30*

This course is a non-mathematical treatment of the basic concepts of astronomy leading to discussions of some of the exciting astronomy-related questions of current interest. Topics include cosmology, stellar evolution, planetary characteristics and recent developments in space exploration. Planetarium demonstrations are incorporated.

**SCI 118: GENERAL ASTRONOMY . . . . .4 CREDITS**

*Prerequisite:* MAT 016 (or equivalent)

*LEC 3 hrs., LAB 2 hrs., Course fee \$35*

This course is a scientific exploration of the human place in the universe. We study the origin and history of the Universe and the formation of the Earth and solar system. We compare the Earth's properties with those of the other planets and cover exciting contemporary topics such as global warming, black holes, and dark matter. Although largely descriptive, the course will occasionally require the use of algebra and geometry level mathematics.

## Sociology and Anthropology

### SOC 108: CULTURAL GEOGRAPHY. . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

The study of the interaction of contemporary cultures and their physical environment. This course examines processes of globalization and their impact on national and local level social processes. Emphasis is placed on the global capitalist economy and its relation to national economies, political systems, populations, environments, and religions.

### SOC 110: SOCIOLOGY OF HEALTH AND ILLNESS. . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

An analysis of the structure and function of health institutions in society with emphasis on the social psychology of illness behavior, the practitioners of medicine, the social organization of the hospital, managed care and future trends in medical care.

### SOC 118: SOCIOLOGY OF WORK AND OCCUPATIONS. . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

Examination and analysis of the world of work and occupations in modern society. Sociological and anthropological techniques are used to investigate work and careers and their effect on lifestyles. Students gain personal insights through research which investigates different ways of making a living and the consequences on individual lives.

### SOC 120: PRINCIPLES OF SOCIOLOGY . . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*Except for the Humanities/Social Science degree program, this course satisfies the Diversity/Global Perspective requirement.*

A comprehensive introduction to the discipline of sociology, examining the basic concepts e.g., role, status, social structure, research methods, culture, socialization, stratification, norms, values, groups, associations, institutions, community, deviance and society, as well as exploring its foundations and history, and techniques of seeing and understanding the world from a sociological perspective.

### SOC 180: PRINCIPLES OF SOCIOLOGY - HONORS. . . . .3 CREDITS

*Prerequisite: Permission of honors coordinator or department*

LEC 3 hrs., LAB 0 hrs.

*Except for the Humanities/Social Science degree program, this course satisfies the Diversity/Global Perspective requirement.*

A systematic introduction to basic sociological concepts, culture, norms, status, role, groups, character structure, association, institutions, community, deviance, and society.

### SOC 202: CONTEMPORARY SOCIAL ISSUES – AMERICA AS A DIVERSE SOCIETY. 3 CREDITS

*Prerequisite: SOC 120*

LEC 3 hrs., LAB 0 hrs.

*Except for the Humanities/Social Science degree program, this course satisfies the Diversity/Global Perspective requirement.*

Investigates issues that challenge citizens in post-modern America. Scientific analysis of topics such as global, political and economic trends, inequality, group conflicts, pluralism, urbanism, alienation and bureaucracy, family disorganization, mass communications, addictive behaviors, and social movements. Special attention will be given to field research which develops student competence in understanding contemporary social issues.

### SOC 206: RELIGION AND HUMAN EXPERIENCE. . . . .3 CREDITS

*Prerequisite: An introductory course in Anthropology, Psychology, or Sociology*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

An interdisciplinary course with sociological, psychological, and anthropological perspectives on religion. Topics include interactions between the individual, society and religion, ritual and religious experience, religious organization and secularization. Comparisons are made between western and non-western religious systems. The rise of fundamentalism and new religious consciousness are also considered.

### SOC 209: THE FAMILY. . . . .3 CREDITS

*Prerequisite: SOC 120*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

Analysis of marriage and family in various cultures, with in-depth study of the contemporary United States including historical development and future trends. Topics covered are romantic love, courtship, marital interaction, divorce, gender roles, and the feminist movement. Special attention is given to the post-modern family and cross-cultural comparisons are made.

### SOC 214: CULTURAL DIVERSITY IN AMERICA: THE SOCIOLOGY OF ETHNIC AND MINORITY GROUPS . . . . .3 CREDITS

*Prerequisite: SOC 120*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

A study of diversity in American life with an emphasis on the cultural, political, and interactional patterns of ethnic and minority groups. Topics to be covered include assimilation, intergroup cooperation and conflict, cross-cultural communication, and theories of prejudice and discrimination. Attention is also given to national and global demographic trends.

### SOC 215: PHYSICAL ANTHROPOLOGY. . . . .3 CREDITS

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

The study of humankind emphasizing human evolution with the integration of recent research in the areas of paleontology, primatology, human genetics, and ethology. Objectives of the course are to provide a knowledge of humankind's biological and physical heritage with emphasis on origins and variations.

**SOC 216: CULTURAL ANTHROPOLOGY . . . . .3 CREDITS**

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

An introduction to the analysis of nonwestern cultures and to anthropological theory and methods. Emphasis is placed on the comparison of western and non-western cultures, including cross-cultural comparisons of political, economic, social and cognitive systems.

**SOC 217: ARCHAEOLOGY . . . . .3 CREDITS**

LEC 3 hrs., LAB 0 hrs.

Introduction to the general principles of archaeological research and theory. An overview of human history and prehistory as evidenced through material remains, including the rise of state-level societies in the old and new worlds.

**SOC 221: SOCIOLOGY OF GENDER . . . . .3 CREDITS**

*Prerequisite: SOC 120*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

An in-depth introduction to social science theory and research in the field of gender studies. The new scholarship on women's issues, feminism, and gender relations is examined and critiqued.

**SOC 222: DEVIANT BEHAVIOR. . . . .3 CREDITS**

*Prerequisite: SOC 120*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

A review of deviant behavior by various deviant, outsider or dis-valued members of a society, with emphasis on the environmental (socio-cultural) causes; the rewards and punishments of conforming or not conforming to group norms; the identification of deviants; the process of becoming prejudice; why people conform; why people like each other; and the dynamics of groups. Topics will be examined in a cross-cultural and historical perspective.

**SOC 224: SOCIAL PSYCHOLOGY. . . . .3 CREDITS**

*Prerequisite: An introductory course in Sociology or Psychology*

LEC 3 hrs., LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

A study of group behavior and the influence of groups on the perception, thinking, and behavior of the individual. Topics are chosen from the following: social influences on the development of personality and attitudes; the causes of human aggression; the nature of prejudice; why people conform; why people like each other; and the dynamics of groups. Topics will be examined in a cross-cultural and historical perspective.

**SOC 230: SOCIOLOGY OF GLOBALIZATION .3 CREDITS**

*Prerequisite: SOC 120*

LEC 3 hrs. LAB 0 hrs.

*This course satisfies the Diversity/Global Perspective requirement.*

Is the current era of globalization a unique historical period or is it simply a variation of previous ones? This course will examine recent social, economic, and political trends, assess the state of the world, and identify the forces that are shaping it.

**SOC 280: CONTEMPORARY SOCIAL ISSUES-HONORS. . . . .3 CREDITS**

*Prerequisite: SOC 180 or SOC 120 and permission of honors coordinator or department*

LEC 3 hrs., LAB 0 hrs.

*Except for the Humanities/Social Science degree program, this course satisfies the Diversity/Global Perspective requirement.*

Scientific analysis of major social institutions and major social issues. Problems will include race and ethnic relations, urbanism, and population, as well as fundamental institutional problems of economics, politics, education, and family. Emphasizes social theory and methods of social research.

**SOC 291, 292: SPECIAL TOPICS IN SOCIOLOGY . . . . .3 CREDITS**

*Prerequisite: An introductory course in Sociology*

LEC 3 hrs., LAB 0 hrs.

An examination of selected topics or issues in Sociology. Topics may differ each time the course is offered. Students should consult the department chairperson for further information.

## Telecommunications Systems Technology

*NOTE: Computer usage and Internet access may be required in the following courses.*

**TEL 109: INTRODUCTION TO TELECOMMUNICATIONS. . . . .3 CREDITS**

LEC 3 hrs., LAB 0 hrs.

This course is an introduction to the terminology and standard practices of the telecommunications industry, including concepts of integrating office automation procedures with telecommunications networks (wired and wireless) using voice, data, text and video information. Coverage includes various transmission and switching media as well as an understanding of message routing hierarchies. Issues of regulation and deregulation will be discussed together with equipment selection and management topics. The mechanics of the Internet will also be introduced with a description of Voice over the Internet Protocol (VoIP). Other topics covered include laser communication links, teleconferencing, data network protocols and architectures and satellite technology.

**TEL 110: ROUTING I (CISCO CCNA1). . . . .3 CREDITS**

LEC 2 Hrs., lab 3 hrs., Course fee \$30

The course follows CISCO's CCNA1 curriculum for Networking Basics. Lecture and laboratory assignments are an integral part of the course. The course focuses on network terminology and protocols, local area networks (LANs), wide area networks (WANs), Open System Interconnection (OSI) networking model, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol addressing/subnetting, and network standards.

**TEL 120: ROUTING II (CISCO CCNA2) . . . . .3 CREDITS***Prerequisite: TEL 110**LEC 2 Hrs., lab 3 hrs., Course fee \$30*

The course follows CISCO's CCNA2 curriculum for Routers and Routing Basics. The course focuses on initial router configuration, CISCO IOS software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Through lectures and laboratory assignments, students will develop the skills to configure and maintain a router as well as the creation of software firewalls.

**TEL 220: ROUTING III  
(CISCO CCNA3 & CCNA4) . . . . . 4 CREDITS***Prerequisite: TEL 120**LEC 3 hrs., LAB 3 hrs., Course Fee \$30*

This course follows CISCO's CCNA3 curriculum for Switching and Intermediate Routing and CISCO's CCNA4 curriculum for WAN Technologies. The first half of the course focuses on advanced IP addressing techniques (Variable Length Subnet Masking (VLSM), intermediate routing protocols (RIP v2, single-area OSPF, EIGRP), command-line interface configuration of switches, Ethernet switches, Virtual LANs (VLANs), Spanning Tree Protocol (STP), and VLAN Trunking Protocol (VTP). The second half of the course focuses on advances IP addressing techniques (Network Address Translation (NAT), Port Address Translation (PAT), and DHCP), WAN terminology and technology, PPP, ISDN, DDR, Frame Relay, network management, and an introduction to optical networking. Preparation is also given to the study of CISCO's CCNA certification examination. Students learn through lecture and laboratory assignments.

**TEL 232: DATA COMMUNICATION . . . . .3 CREDITS***Prerequisites: ELT 209**LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course is a study of systems and equipment used in the transmission of data, interfacing data links to computers and troubleshooting of data links. Topics include VoIP (Voice over Internet Protocol), wireless technology, optical networking, serial interfaces, routing, link analysis, modems, data link and protocols, networking. The laboratory makes extensive use of protocol analysis for diagnostics.

**TEL 233: NETWORK OPERATING SYSTEMS .3 CREDITS***LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course is an introduction to various network operating systems. Emphasis is placed on the study of a server in a client/server computer network. Topics of study include installation of a network operating system, securing a system, creating users and groups, partitioning of hard drive, installation of transport protocols, creating and maintaining printers, event viewing, performance monitoring, registry modification, configuring a server, creating and maintaining the active directory, and troubleshooting the network.

**TEL 234: TELECOMMUNICATIONS SYSTEMS. 3 CREDITS***Prerequisites: ELT 201, and ELT 209**LEC 2 hrs., LAB 3 hrs., Course fee \$30*

This course includes the study of the elements of telecommunications systems, emphasizing both voice and digital communications. Telephone loop operation and signaling, central office interface, switching, routing, transmission protocols, network architecture, T1 multiplexing and high-speed transmission are major topics. Advanced telecommunications topics such as ISDN and DSL are studied. Laboratory includes configuration, maintenance and diagnostic telecommunication systems.

**TEL 239: COOPERATIVE WORK EXPERIENCE –  
TELECOMMUNICATIONS SYSTEMS  
TECHNOLOGY . . . . .3 CREDITS***Prerequisite: Permission of the department/completion of the first-year of program.*

This course is a field experience in the laboratory facilities of an industrial firm. Designed for the students in program 3650 to obtain industrial experience as a supplement to their college studies prior to career employment. Seminar evaluation visitations are included.

**TEL 290: INDEPENDENT STUDY IN  
TELECOMMUNICATIONS  
SYSTEMS TECHNOLOGY . . . . . 3 CREDITS***Prerequisite: Permission of the department/completion of the first-year of program.*

A student, in consultation with a Telecommunications Technology advisor, undertakes an in-depth analysis of a selected topic, problem, or issue related to the telecommunications industry or pursues additional related work experience. The student is responsible for developing a statement of goals and strategies, maintaining a weekly log, and preparing a written and oral summary report. Written permission must be obtained from the department before registering for this course.

**TEL 291, 292: SPECIAL TOPICS IN  
TELECOMMUNICATIONS  
SYSTEMS TECHNOLOGY . . . .3 CREDITS***LEC 2 hrs., LAB 3 hrs., Course fee \$30**Prerequisite: Department Permission*

These courses provide a student with an examination of selected topics or issues in Telecommunications Systems Technology. Topics may differ each time the course is offered. Students should consult a Telecommunications Technology advisor for additional information.