



COURSE DESCRIPTIONS

Course Numbering

Courses numbered 100 or higher are taught at the college undergraduate level. Numbers 100-199 are considered freshman level, while 200-299 are at the sophomore level. Courses numbered 199 or 299 are generally experimental to evaluate student response. Courses numbered below 100 generally do not carry transfer credit.

Courses numbered 198 or 298 are independent study. Independent study is used for individualized advanced studies on a particular topic, studies in areas not considered in other courses to meet special interests, or to meet program requirements.

Independent study affords an opportunity for students with previous study in a subject area to pursue further investigations for credit. Prerequisite: Instructor and department chair approval of study plan. 12 credits maximum total credit.

APPLIED ECONOMICS (AEC)

AEC 121: Discovering Agriculture and Resource Economics (1)

Explore issues, opportunities, and challenges in the dynamic and diverse employment field of agricultural and resource economics. 1 lecture hrs/wk. F

AEC 211: Management in Agriculture (4)

Economic and business principles applied to the management of agribusiness firms, including farms and ranches; goal-setting and management information; planning and decision-making tools; acquiring, organizing, and managing land, labor, and capital resources. Registration-Enforced Prerequisite: ECON 201. 4 lecture hrs/wk. F

AEC 221: Marketing in Agriculture (3)

Organization and functions of domestic and international markets; market channels for various agricultural commodities; role of agribusiness, cooperatives, and government in marketing decisions. Registration-Enforced Prerequisite: ECON 201. 3 lecture hrs/wk. W

AGRIBUSINESS (AG)

AG 111: Computer Applications in Agriculture (3)

Computer use in agriculture and agribusiness; practical experience with computer programs applicable to all agricultural disciplines. 3 lecture hrs/wk. W

AG 120: Intro to Agribusiness (3)

An introduction to agricultural business methods, basic approaches to management, finance, agricultural law and economics and the marketing and selling of agricultural products. 3 lecture hrs/wk. S

APPRENTICESHIP (APR)

APR 101: Intro to Trades & Technology (4)

This course provides an introduction to the necessary skills required for working in the trades. Students explore current trends in apprenticeship and basic requirements to enter individual programs. Students will become familiar with licensing and certification in a chosen trade. General topics include: industry opportunities and basic concepts in safety, trade vocabulary, trade calculations, hand and power tools, blueprint reading, and basic rigging. 3 lecture, 3 lab hr/wk. F

APR 111: Machine Shop Practices 1 (3)

This is a basic machine shop course introducing the student to basic machine shop concepts and general shop practices involving the use of an engine lathe, milling machine, drill press, grinders, and other machine shop tools. Instruction will be provided in general machining techniques with safety and economy of operation being emphasized. Students will work at their own pace through specific projects. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 6 lecture/lab hrs/wk. F

APR 112: Machine Shop Practices II (3)

This builds upon the skills learned in APR 111 with a continuing emphasis on the fundamentals and mechanics of machine shop concepts and general shop practices involving the use of an engine lathe, milling machine, drill press, grinders, and other machine shop tools. Instruction will be provided in general machining techniques with safety and economy of operation being emphasized. Students will work at their own pace through specific projects. Registration-Enforced Prerequisite: APR 111. 6 lecture/lab hrs/wk. W

APR 113: Machine Shop Practices III (3)

The student learns the operation of horizontal and vertical milling machines, their setup, basic operation and use of accessories such as digital readouts, rotary table, dividing head, gear and cam millings and the use of indicators, wigglers and edge finders. Registration-Enforced Prerequisite: APR 112. 6 lecture/lab hrs/wk.

APR 115: Computer Aided Drafting 1 (3)

This is a beginning level course, which introduces computer aided drafting (CAD). The AutoCAD 2011 software is used to set up drawings and perform basic drawing and editing commands. Emphasis is on two-dimensional drawings, and engineering architectural aspects of computer drafting. This is an online enhanced course, meaning students are required to use online resources to pass this class. 2 lecture, 2 lecture lab hrs/wk. F

APR 120: Industrial Safety (3)

This course will present training in OR-OSHA standards and related general safety and health provisions. Oregon Safety Law and subjects listed in OAR 437, Division 3 and OAR 437, Division 2 training and accident prevention measures are included, as well as safety committee procedures. 3 lecture hrs/wk. W

APR 121 – Hydraulics I (3)

An introductory course covering the basic principles of hydraulics for the future industrial hydraulics technician. Included in the class are pressure, force and area relationships, HP, GPM, and velocity relationships, fundamentals of reservoir design, fluids and fluid flows, and the fundamentals of hydraulic pumps. Common industrial circuits are developed and studied with the use of lab trainers. Students will disassemble, inspect and reassemble both components and circuits in structured lab sessions. Registration-Enforced Prerequisite: MTH 052 or MTH 60. 3 lecture hrs/wk. F

APR 122 – Hydraulics II (3)

This is the second in a five-course series for the Industrial Apprentice and a continuation of Hydraulics I. The focus is on pressure relief valves, hydraulic activators and flow controls. Each component is studied in structured classroom sessions, while lab activities are directed at disassembly, inspection and circuitry involving the specific component. Student will be using lab trainers to examine the operation of circuits using these components. Registration-Enforced Prerequisite: APR 121, 3 lecture hrs/wk. W

APR 123 – Hydraulics III (3)

This course is a continuation of Hydraulics II. Each student will study contamination control, hydraulic actuators, flow controls and hydraulic accessories. Circuits using those components are fabricated, discussed and studied during the structured lab sessions. Registration-Enforced Prerequisite: APR 122, 3 lecture hrs/wk. S

APR 130: Mechanical Principles and Drive Designs (3)

This course will familiarize the student with the proper identification, interchanging, application, failure analysis, and selection of all types of bearings. Drive designs will also be taught in relation to belts and roller chain. 3 lecture hrs/wk. F

APR 131: Basic Metallurgy (3)

Covers the principles related to metals, their structure and physical properties. The testing of various metals, their uses and the results of heat treating are explored. Laboratory time is provided for experiments and demonstrations to correlate with classroom activities. 2 lecture/3 lab hours. F

APR 140: Beginning Welding for Apprentices (1)

This course covers welding processes, safety, equipment, and essential variables of operation. This is an outcome-based course utilizing a lab format in which students successfully demonstrate their skill level. 3 lab hrs/wk. W, S

APR 141: Intermediate Welding for Apprentices (1)

This course will build upon skills learned in APR 140, with a continuing emphasis on the fundamentals and mechanics, welding processes, safety, equipment, and essential variables

of operation. This is an outcomes-based course utilizing a lab in which students demonstrate and build their skill level. Registration-Enforced Prerequisite: APR 140. 3 lab hrs/wk. W, S

APR 142: Advanced Welding for Apprentices (1)

This course will build upon the skills learned in APR 140 and APR 141, with a continuing emphasis on the fundamentals and mechanics, welding processes, safety, equipment, and essential variables of operation. This is an outcomes-based course utilizing a lab in which students demonstrate and build their skill level. Registration-Enforced Prerequisite: APR 141. 3 lab hrs/wk. W, S

APR 143: Pipe Welding (1)

This course covers multiple welding processes for pipe welding applications. Safety, equipment, and essential variables of operation will be emphasized, as well as the fundamentals and mechanics of pipe welding. This is an outcomes-based course utilizing a lab in which students demonstrate and build their skill level. Registration-Enforced Prerequisite: APR 142. 3 lab hrs/wk. W, S

APR 145: Blueprint Reading and Sketching (1)

A basic course in sketching and reading of shop drawings. A study is made of three-view drawings, pictorial drawings, dimensioning, tolerancing, lines, notes and symbol interpretation. 3 lecture hrs/wk. W

APR 151: Basic Electronics and Electricity (4)

This course covers information on basic DC and AC electrical theory, definitions, basic component identification and analysis of series, parallel and combination circuits. Emphasis is placed on practical application, troubleshooting and problem solving. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 3 lecture, 2 lecture/lab hrs/wk. F

APR 153: Electrical Applications and Techniques (3)

This course covers basic application techniques and components generally found in the industrial and commercial environments. Focus is on electrical safety and related industry safety standards. The National Electrical Code Book is utilized where applicable to reinforce code rules and proper application of associated articles. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 3 lecture hrs/wk. W

APR 155: Electrical Best Practices (2)

The course includes techniques in conduit bending and installation, conductor installation, cable installation and conductor termination, including hands-on instruction. It covers tools available for installation, fasteners and panelboard mounting. The material presented will stress workmanship and professionalism, and will include a review of NEIS publications. 2 lecture hrs/wk. W

APR 157: Introduction to the National Electrical Code (2)

This course is an introduction to the National Electrical Code and examines the structure, language and basic content of the Code. It will examine the basic wiring methods outlined in chapters 1, 2 and 3 of the National Electrical Code and evaluate methods and techniques necessary for a safe and reliable installation. 2 lecture hrs/wk. S

APR 159: Electrical Blueprint Reading (2)

This course will provide the apprentice with the knowledge and understanding of how to read, draw, and interpret electrical drawings, symbols, schematics, prints, and schedules. One-line drawings, controller operational sequencing/troubleshooting, and applicable sections of the National Electrical Code are included. 2 lecture hrs/wk. S

APR 160: Residential Wiring (3)

This course is an introduction to basic residential wiring and calculations. Topics include circuit layout, wiring design, wiring installation, service installation, and service and branch circuit calculations. Design techniques are reinforced through the use of testing equipment and installation practice. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 3 lecture hrs/wk. Su

APR 163: Commercial Wiring (3)

This course is an introduction to basic commercial wiring and calculations. It will give the student background in all aspects of commercial work, including services. Design techniques are reinforced through the use of testing equipment and installation practice. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 3 lecture hrs/wk. Su

APR 165: AC Electronics and Electricity (4)

This course covers the theory and application of magnetism, electromagnetism, the generation of electromotive force, AC and DC motor principles, transformer theory, types and applications. Focus is on alternating current principles and the theories involving the proper wiring of AC circuits. The student will be introduced to electrical control circuits and the operation of a transistor. Registration-Enforced Prerequisite: APR 151. 3 lecture, 2 lecture/lab hrs/wk. W

APR 167: Electric Motors and Transformers (3)

This course investigates the electric motors and transformer, and helps the student differentiate between winding styles, frame sizes, NEMA motor type designations, and other criteria. It discusses motor sizing and motor starting characteristics and methods. Troubleshooting and maintenance are covered. NEC requirements for motor and transformer installation are included. Registration-Enforced Prerequisite: APR 153. 3 lecture hrs/wk. S

APR 169: Electrical Code Study II (2)

This course is an in-depth study of grounding, overcurrent and electrical safety as found in Articles 240 and 250, along with safety-oriented excerpts found elsewhere in the National Electrical Code. 2 lecture hrs/wk. S

APR 228: Rigging Fundamentals (3)

This course introduces the uses of slings and common rigging hardware along with basic inspection techniques, hitch configurations, and load-handling safety practices. Components of wire rope, wire rope inspection, proper installation of wire rope, maintenance guidelines, and end terminations and preparations will also be covered. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 2 lecture, 2 lecture/lab hrs/wk. S

APR 229: Basic Pneumatics (3)

This course will help students understand fundamental concepts of

a pneumatic system. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 3 lecture hrs/wk. S

APR 251: Electrical Sensors and Control (3)

This course covers the basic concepts of open and closed loop control systems common to motion and process control. Process controls including pressure, temperature, flow, and levels of gases, liquids, and solids are studied. Various measurement methods are covered, and the operation of mechanical and electronic measurement sensors are explained. Introduction to AC and DC variable speed drives, as well as the fundamental operation of programmable logic controllers, PLC programming, basic numbering systems, and application examples are covered. Registration-Enforced Prerequisite: APR 167. 3 lecture hrs/wk. F

APR 253: Electrical Code Study III (2)

This course is an in-depth overview of Chapter 3 in the National Electrical Code. It includes the study of general rules for wiring and calculating ampacity, as well as specific wiring methods and the codes involved in their installation. 2 lecture hrs/wk. W

APR 255: Motor Controls I (2)

This course will teach basic electromechanical motor control theory, including input devices, logic, and pertinent sections of the National Electrical Code. The course will teach various common motor control circuits and will include hands-on training. Registration-Enforced Prerequisite: APR 151. 1 lecture, 2 lecture/lab hrs/wk. F

APR 257: High Voltage Applications (2)

This course will outline hazards associated with high voltage work, along with applicable safety codes and practices. NFPA 70E will be discussed. Methods for routing, handling and terminating high voltage cable will be reviewed, along with applicable references from the NEC. Registration-Enforced Prerequisite: APR 153. 2 lecture hrs/wk. W

APR 259: Solid State and Digital Applications (4)

This course covers information on thyristors, digital and analog IC's, sensors and transducers. Digital circuit fundamentals are studied with an emphasis on troubleshooting and problem solving. Students will use test equipment to analyze digital integrated circuits. An overview of computer interfacing will be presented. Registration-Enforced Prerequisite: APR 165. 3 lecture, 2 lecture/lab hrs/wk. S

APR 261: Electrical Code Study IV (2)

This course includes instruction on calculations required for wiring to Code, i.e., conduit and box fill, ampacity, motor and transformer calculations, service size, voltage drop and available short-circuit current. 2 lecture hrs/wk. S

APR 263: Communications, Alarms and Controls (2)

This course will examine NEC requirements for low voltage installations, and will also cover the theory of operation of communications circuits, control and communications cable types, and termination and splicing techniques for various systems. Registration-Enforced Prerequisite: APR 151. 2 lecture hrs/wk. F

APR 265: Motor Controls II (2)

This course will teach basic motor speed control theory, including

input devices, logic, and motion control device theory. It will introduce variable frequency drives and PLC's as well as other speed control methods. The course will include hands-on training. Registration-Enforced Prerequisite: APR 255. 1 lecture, 2 lecture/lab hrs/wk. W

APR 267: Advanced Code Study (3)

This course is an examination of the contents of Chapters 5, 6 and 7 of the National Electrical Code covering special occupancies and special equipment. It also examines the Oregon Specialty Codes as well as federal codes such as OSHA, UL, IEEE, UBC and others. Registration-Enforced Prerequisite: APR 157 or APR 169 or APR 253 or 261. 3 lecture hrs/wk. S

APR 269: Journeyman Exam Preparation (3)

This course is refresher instruction with regular drills designed to improve the student's ability to find and interpret National Electrical Code references. Registration-Enforced Prerequisite: APR 157 or APR 169 or APR 253 or 261. 3 lecture hrs/wk. S



ART (ART)

ART 101: Introduction to the Visual Arts (4)

Study of the visual elements and principles of art, their nature, function and relationship in painting, sculpture, architecture and graphics. Through thematic examination of both historical and contemporary art the student will acquire a vocabulary to describe formal properties of art, techniques of art making, and social, psychological, spiritual and physical uses of art. 4 lecture hrs/wk. F

ART 115: Art and Design Foundations 1:2D (4)

Introduction to working with the elements of two-dimensional art and design, organizational principles, concept, and process. Principles and elements of design will be explored through traditional and contemporary media. This is an essential course for majors in Art, Art Education, Pre-Architecture, Graphic Design, and Product Design. No prerequisites. Open to non-majors. 2 lecture, 4 lecture/lab hrs/wk. W

ART 117: Art and Design Foundations in 3D (4)

Introduction to working with the elements of three-dimensional art and design, organizational principles, concept, and process. Principles and elements of design will be explored through traditional and contemporary media. Course includes lectures, readings, demonstrations, and hands-on projects to help students identify, practice, and gain proficiency in 3D design (including color). Students will also be introduced to the work of contemporary artists, techniques that focus on idea generation and

problem solving, and (studio) critique. This is an essential course for majors in Art, Art Education, Pre-Architecture, Graphic Design, and Product Design. No prerequisites. Open to non-majors. 2 lecture, 4 lecture/lab hrs/wk. S

ART 120: Artists' Books (3)

In this course, students will learn to construct a variety of basic folded and stitched book structures and pop-up techniques. Curriculum will focus on design process development, conceptual development and typographic layout. Students will learn the history of the book form throughout the world, the history of movable books, and the history of artists' books and fine press books. Contents and expected learning proficiencies of this course vary from term to term. 2 lecture, 3 lab hrs/wk. W

ART 131: Intro to Drawing I: Line and Gesture (3)

This course serves as an introduction to visual language through a variety of modes of drawing and the manipulation of tools and materials in the drawing medium. The concepts of basic composition are explored including placement and scale of subject matter, pictorial balance, volume and spatial depth. Different modes of drawing include the exploration of gesture, contour, cross contour, and negative space. Critical thinking skills are exercised in individual and group critiques addressing the integration of form with content. Discussions and presentations of drawing ideology expand the student's perception of themselves as artists within a historical and contemporary context. This course is for those interested in Art and non majors seeking elective credit. 2 lecture, 3 studio (lab) hrs/wk. F

ART 132: Intro to Drawing II: Form and Space (3)

This course is the second drawing course where the study of visual language is explored through the manipulation of a wider variety of drawing tools and surfaces. A more in-depth study of drawing modes introduced in ART 131 continues in this course, with the addition of advanced concepts of perspective, shading, and conceptual development. Critical thinking skills are exercised in individual and group critiques addressing the integration of form with content. Discussions and presentations of drawing ideology expand the student's perception of themselves as artists within a historical and contemporary context. 2 lecture, 3 studio (lab) hrs/wk. W

ART 134: Illustrating Nature (3)

This course is designed to introduce basic art techniques to those wishing to learn how to illustrate what they see in the natural world. Students will learn about sketching basics, simple color techniques, and basic photography. Most lectures, demonstrations, and lab work will be done in the field, illustrating from life. This is an excellent course to take in conjunction with botany and other natural science courses. 2 lecture, 3 lab hrs/wk. F

ART 197: Artist's Survival/Practical Issues (3)

Through lectures, demonstrations and discussions, participants will learn and apply professional practices relevant to emerging artists' careers. Students will learn to write artist's statements and resumes, portfolio preparation, networking strategies, gaining exposure and representation for art work, creating publicity, basic marketing and exhibition strategies, presenting and installing art work, business concerns, art market dynamics, and about art collecting. Field

trips to galleries and/or guest lectures will supplement classroom activities. Students may have opportunities to gain practical experience in the UCC gallery, through internships and/or through Service Learning Projects. 3 lecture hrs/wk. S

ART 204: History of Western Art I: the Ancient World (4)

This course explores the history of art and architecture in the ancient Mediterranean and Near East from the origins of art in the Paleolithic Era, through its expressions in the cultures of Egypt and Mesopotamia, to the art and architecture of Greece and Rome, and the Late Antique period- the transition between the ancient and medieval worlds. Emphasis is placed on the ways in which ancient cultures represented the human form, and examines the role of art within emerging cultures and civilizations, the relationship of art to social, political and philosophical contexts, and connections of past art and culture to the present.

Recommended prerequisite: WR 095 with a grade of C or better or appropriate test scores and RD 090 with a grade of C or better or appropriate test scores. 4 lecture hrs/wk. F

ART 205: History of Western Art II: Medieval through Baroque (4)

This course focuses on the major monuments, artists and artistic developments in Western Europe during the medieval and renaissance periods. Spanning the years from 400 AD to 1550 AD, the course begins with Rome's fall, and goes on to consider Rome's legacy, the rise of the Byzantine Empire, and the spread of Christianity and Islam. It continues with the development of Carolingian, Ottonian, Romanesque and Gothic cultures in Western Europe. The term finishes with a treatment of the Renaissance, culminating in the works of Leonardo, Raphael, Michelangelo, Holbein and Durer.

Students will examine artworks and artistic movements in the context of political, economic, religious, intellectual and social history, in an attempt to better understand the creation, function and reception of art.

Recommended Prerequisite: WR 095 with a grade of C or better or appropriate test scores and RD 090 with a grade of C or better or appropriate test scores. 4 lecture hrs/wk. W

ART 206: History of Western Art III: Baroque to Modern (4)

This class will focus primarily on major artists and developments in western European painting, sculpture, and architecture from the Renaissance to the twentieth century. In addition to the nature and development of individual, regional and period styles, we will consider shifting relationships between the arts and political, religious, social, and economic developments.

Students will examine artworks and artistic movements in the context of political, economic, religious, intellectual and social history, in an attempt to better understand the creation, function and reception of art.

Recommended Prerequisite: WR 095 with a grade of C or better or appropriate test scores and RD 090 with a grade of C or better or appropriate test scores. 4 lecture hrs/wk. S

ART 234: Figure Drawing (3)

An introduction to drawing the human figure. Measurement, shading, and interpretation with various media are presented. 2 lecture, 3 studio (lab) hrs/wk. S

ART 250: Ceramics (3)

Clay forming methods and techniques with emphasis on wheel throwing. Glazing and firing ceramics. History and evolution of ceramics. Raku firing included. 2 lecture, 3 studio (lab) hrs/wk. F, Su

ART 251: Ceramics (3)

Review of clay forming methods for beginners. Wheel throwing and formulation of glazes. Surface treatment, decoration and glaze application. Raku firing included. 2 lecture, 3 studio (lab) hrs/wk. W

ART 252: Ceramics (3)

Continuation of the review of clay forming methods and glazes for nonprofessionals. Advanced glaze and clay formulation, kiln design and firing procedures, and advanced wheel throwing. 2 lecture, 3 studio (lab) hrs/wk. S

ART 253: Intro to Ceramic Handbuilding (3)

This course introduces students to handbuilding techniques in clay. The class will explore all the basic ways of forming art objects in clay without the use of the potter's wheel. This will include coil construction, soft-slab construction, hard-slab construction, pinching, tile and mold making. Students will learn to use the various tools involved in these techniques such as the slab roller and extruder. Following lectures and demonstrations, students will experiment with these processes and fabricate ceramic art objects using them. Students will also learn glazing and other surface decoration methods for finishing. 2 lecture, 3 lab hrs/wk. F

ART 254: Ceramic Handbuilding II (3)

This course is the second in a series of three classes on the art of ceramic handbuilding. The course will continue to explore the various ways to form art objects in clay without the use of the potters' wheel. The emphasis in this class will be on slab construction with an increased consideration of content in the ceramic projects. Glaze formulation and testing will also be emphasized. 2 lecture, 3 lab hrs/wk. W

ART 255: Ceramic Handbuilding III (3)

This course is the third in a series of three classes on the art of ceramic handbuilding. The course will continue to explore the various ways to form art objects in clay without the use of the potters' wheel. The emphasis in this third class will be on advanced construction techniques. Content and form will be explored in all assignments. This course will also cover mold making for ceramics and non-high fire surface decoration techniques. 2 lecture, 3 lab hrs/wk. S

ART 261: Black and White Photography (3)

This is a studio course in black and white photography with an emphasis on proper exposure, composition, and content. Students will learn to control their camera settings and digital and chemical darkroom workflow. Students must have the use of a film or digital single lens reflex camera. 2 lecture, 3 studio (lab) hrs/wk. F (not offered every year)

ART 263: Color Photography (3)

This is a studio course in color photography with an emphasis on proper exposure, composition, and content. Students will learn

to control their camera settings and digital workflow. Students must have the use of a digital single lens reflex camera. 2 lecture, 3 studio (lab) hrs/wk. W (not offered every year)

ART 270: Introduction to Printmaking (3)

Students will learn the basics of relief printing on wood and linoleum. Course covers single- and multiple-color reduction cuts and multiple block techniques. Color registration and stencil use will also be covered. All printing will be done by hands on Japanese paper using water-soluble inks. 2 lecture, 3 studio (lab) hrs/wk. S, Su

ART 280: Cooperative Work Experience: Art (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. Su, F, W, S

ART 281: Painting (3)

Introductory course for beginning students, employing acrylic media. Emphasis on basic technical skills of painting, physical properties and manipulation of materials, painting concepts and art historical context. Develops understanding of composition and color necessary for intermediate-level painting courses. Students complete several painting compositions. 2 lecture, 3 studio (lab) hrs/wk. W

ART 291: Sculpture (3)

History and techniques of sculptural form. Modeling, carving and construction in clay and plaster, human and organic figure study. 2 lecture, 3 studio (lab) hrs/wk. F

ART 292: Sculpture (3)

Sculptural techniques in wood and stone. Introduction to welding and brazing techniques. Mold making, wax sculpture, and casting bronze. 2 lecture, 3 studio (lab) hrs/wk. W

ART 293: Sculpture (3)

Sculptural techniques cast in bronze. Jewelry and sculpture casting. Study of traditional and contemporary form and technique. 2 lecture, 3 studio (lab) hrs/wk. S

ART 294: Watercolor (3)

Students will explore the use of various water media, with particular emphasis on transparent watercolor. This class introduces the basic technical skills of painting with water media, the physical properties and manipulation of the materials, visual theory of composition and color knowledge. Students complete a number of painting assignments. In-class instruction and demonstrations will be supplemented with work on location. Prior experience with drawing and/or Basic Design is helpful. 2 lecture, 3 studio (lab) hrs/wk. S

ART 299: Special Studies in Art (1-2)

Offers private, one-on-one studio instruction in a specific medium. This course provides an opportunity for the student to acquire additional depth and personal achievement in any area of art beyond what is supplied by usual course. 3-6 lab hrs/wk.

ATMOSPHERIC SCIENCE (ATS)

ATS 201: Climate Science (4)

Earth's climate is influenced by the interactions of physical, chemical, and biological processes on land and in the atmosphere, ocean, and cryosphere. This introductory course surveys aspects of the Earth's energy budget, the greenhouse effect, characteristics and budgets of important greenhouse gases, as well as the influence of various other physical, chemical, and biological (including human) processes. Past, present, and potential future climate changes are assessed and compared using a variety of observations and climate models. Future climate impacts projected to result from the human influence on Earth's climate will be explored along with technical and policy alternatives for mitigation and adaptation. The certainty (or uncertainty) of each aspect will be considered. Registration-Enforced Prerequisite: MTH 095. 3 lecture/3 lab hrs/wk. W

AUTOMOTIVE (AUT)

AUT 100: Orientation to Automotive Technology (1)

Orientation to Automotive Technology is required for all students entering the Automotive Program. Students will be accepted into the program based on successful completion of the application process. User name and passwords will be issued for automotive classes. Shop and environmental safety course will be assigned to be completed before students are able to work in the auto shop lab. 11 lecture hrs/week. (3-day class) F

AUT 101: Basic Automotive Skills I (3)

First of a three-part series; a basic automotive series of classes designed to ready students for a college level Automotive Program. This class focuses on using proper tools and equipment as well as the operating concepts of a few of the major systems used in an automobile. 6 lecture/lab hrs/wk. (Course not currently taught at UCC).

AUT 102: Basic Automotive Skills II (3)

Second of a three-part series; a basic automotive series of classes designed to ready students for a college level Automotive Program. This class continues its focus on the operating concepts of the majority of the major systems used in an automobile not covered in the first class of the series. 6 lecture/lab hrs/wk. (Course not currently taught at UCC).

AUT 103: Basic Automotive Skills III (5)

Third of a three-part series; a basic automotive series of classes designed to ready students for a college level Automotive Program. This class adds electronics and diagnostics to the previous two classes in the series. (This complies with Job Corps TARS). Soft skills necessary for employment are taught and reinforced such as use of a time clock, completing repair orders (including concern, cause, and correction), and completing parts order slips. 10 lecture/lab hrs/wk. (Course not currently taught at UCC).

AUT 150: Suspension and Alignment (5)

A study of automotive suspension systems including history and development. Fundamentals of front and rear suspension, steering geometry, diagnosing suspension and steering problems, and overhaul techniques are covered in this course. Rebuilding and repair of the different types of front and rear suspensions including strut types are practiced. This course provides a detailed study of wheel balancing including radial force variation, computer controls for steering and suspension systems including inputs, logic, and actuators, and four wheel alignment. Wheel alignment factors and procedures, Steering and Handling concerns and diagnostics are also covered in detail. Instructor approval required. 6.5 lecture, 13.5 lab hrs/wk. (5-week course) W

AUT 151: Internal Combustion Engines (6)

The operating principles and function of each of the major parts of the reciprocating piston internal combustion engine are presented and discussed. Service, overhaul, and troubleshooting techniques as they relate to each component are also covered. Instructor approval required. 7.5 lecture, 15 lab hrs/wk. (5-week course) F

AUT 155: Automotive Brakes (6)

A course designed to teach students the principles of automotive brakes. Basic concepts and terminology, fundamental principles, diagnosis and overhaul techniques are an integral part of this course. Special emphasis is placed on the study, diagnosis and repair of braking systems found on late-model domestic and import vehicles. The student should acquire knowledge of brake systems and troubleshooting procedures for both disc and drum brakes. Students will be taught to properly use industry-standard equipment to service disc and drum brake components and systems to manufacturer standards. Computer-controlled systems integrated into the automotive brake system will be studied. Instructor approval required. 7.5 lecture, 15 lab hrs/wk. (5-week course) W

AUT 161: Power Trains (5)

Power Trains details the theory, operation, diagnosis and service of modern drive train components. This includes information on the latest clutches, manual transmissions and transaxles, solid and independent rear axle assemblies, drive shafts, drive axles, U-joints and CV joints. Basic drive train components such as gears, bearings, and seals are identified and explained. This course also includes detailed explanations of the operation of electronically controlled systems. Scan tool use and code retrieval to aid in diagnosis are also covered. Instructor approval required. 7.5 lecture, 15 lab hrs/wk. (5-week course) F

AUT 168: Automotive Electricity I (5)

This is the first of three courses focusing on electrical and electronic systems for automotive students. Electrical theory, circuits, and devices such as batteries, starters, alternators and test meters will be covered. All concepts discussed in the classroom will be reinforced in lab. The integration of applied mathematics, chemistry, physics, and other scientific concepts is a large portion of this course. Practical skills established include: component identification, wiring techniques, test equipment usage, safety practices, and appropriate work habits. Instructor approval required. 7.5 lecture, 15 lab hrs/wk. (5-week course) S

AUT 169: Automotive Electricity II (5)

In part one of this sequence the topic of study was centered on basic electrical principles. The identification of different types of circuits and how they work, including the application of Ohm's law to demonstrate the relationship between current, voltage and resistance was also covered. A continuance of the battery and starting systems will carry over briefly as a review and will be discussed when the topics apply to the concepts at hand. In this course, we will take those concepts one step further and apply them directly to the work that student will do anytime they diagnose an electrical problem. Drawing from their prior learning in part one of this sequence, they will apply that knowledge in detail toward the diagnosis of electrical systems utilizing all resources available. Instructor-Enforced Prerequisite: AUT 168. 6.5 lecture, 13.5 lab hrs/wk. (5-week course) S

AUT 259: Electronic Engine Controls I (6)

Electronic Engine Controls I is the first course in a three-part engine performance series. This course is designed to provide training to meet the requirements for ASE certification area A8. This course will cover engine operation, engine control module input sensors, output controls and electronic ignition systems. Lecture sessions are devoted to basic fundamentals, operational theory, and diagnostic processes common to each of the above areas. Lecture/lab sessions are to develop student skills in servicing, diagnosing, and repairing components within the specific systems. Approximately one fourth of the class will be classroom and three fourths will consist of lecture/lab activities. Instructor- Enforced Prerequisite: AUT 151, AUT 170 or Instructor Approval. 5.4 lecture 15.6, Lecture/ lab hrs./wk. (5-week course) F

AUT 260: Electronic Engine Controls II (6)

Electronic Engine Controls II is the second course in a three-part engine performance series. This course is designed to provide training to meet the requirements for ASE certification area A8. This course will cover fuel systems, emission systems; OBDII system testing and engine crank with no start diagnostics. Lecture sessions are devoted to basic fundamentals, operational theory, and diagnostic processes common to each of the above areas. Lecture/ lab sessions are to develop student skills in servicing, diagnosing, and repairing components within the specific systems. Approximately one fourth of the class will be classroom and three fourths will consist of lecture/lab activities. Instructor- Enforced Prerequisite: AUT 259 or Instructor Approval. 5.4 lecture, 15.6 Lecture/ lab hrs./wk. (5-week course) W

AUT 263: Automatic Transmissions (6)

Instruction in automatic transmissions, including principles of operation, troubleshooting and overhaul procedures. Instruction includes hydraulically operated transmissions, torque converters and transaxles common to the automotive field. Instructor approval required. 7.5 lecture, 15 lab hrs/wk. (6-week course) S

AUT 270: Automotive Electricity III (5)

This is the final course covering the basics concepts, components and diagnosis of automotive electrical circuits. In the previous course the use of Electrical Wiring Diagrams (EWD's), component location, vehicle testing and the six step diagnostic process were covered. Building upon the previous topics this course presents the

construction, operation, diagnosis & service of advanced electronic circuits, control units, and network communication protocols. Features of the Electronic Control Unit (ECU) to be covered include: memory, customization, initialization, and their effect on circuit diagnosis. This section also introduces the fundamentals of multiplexing, computer signals, waveforms, oscilloscopes, and advanced DVOM usage. Communication protocols that will be covered include: BEAN, LIN, CAN, and AVG-LAN as well as the diagnostic processes for locating shorts or opens in various multiplexed circuits. Instructor-Enforced Prerequisite: AUT 169. 6.5 lecture, 13.5 lab hrs/wk. (5-week course) F

AUT 280: Cooperative Work Experience: Automotive (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

AUT 286: Climate Control Systems (5)

This course covers the automotive heating, ventilation, and air conditioning systems and the engine cooling system. Lecture sessions are devoted to the purpose, operational theory, and diagnostic processes common to each of the above areas. Lab sessions are provided to develop student skills in servicing, troubleshooting, and repairing each component within the specific system. Students will work on both components and live vehicles as part of the learning process. Instructor approval required. 6.5 lecture, 13.5 lab hrs/wk. (5-week course). S

AUT 289: Electronic Engine Controls III (6)

Electronic Engine Controls III is the third course of a three-part engine performance series and focuses on light duty diesel systems. This course is designed to provide training to meet the requirements for ASE certification area A9. This course will cover basic principles, fuel control operation, turbo systems operation and emission system operation. Lecture sessions are devoted to basic fundamentals, operational theory, and diagnostic processes common to each of the above areas. Lecture/lab sessions are to develop student skills in servicing, diagnosing, and repairing components within the specific systems. Approximately one fourth of the class will be classroom and three fourths will consist of lecture/lab activities. Instructor-Enforced Prerequisite: AUT 260 or Instructor approval. 5.4 lecture, 15.6 Lecture/ lab hrs./wk. (5-week course) W

AUTOMOTIVE T-TEN (TTEN)

TTEN 100: Intro to Toyota (5)

Introduction to Toyota is required for all students entering UCC's T-TEN program. Students will be accepted into the program based on successful completion of UCC's T-TEN application process. User name and passwords will be issued needed for automotive classes. Shop and environmental safety course will be assigned to be completed before students are able to work in the auto shop lab. The policies and procedures needed for the student's dealer internships will be covered. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) F

TTEN 150: Suspension and Alignment - Toyota (5)

A study of automotive suspension and steering systems including diagnosis and repair. Fundamentals of front and rear suspension, steering geometry, diagnosing suspension and steering problems, and overhaul techniques are covered in this course. Rebuilding and repair of the different types of front and rear suspensions including strut types are practiced. This course provides a detailed study of wheel balancing including radial force variation, computer controls for steering and suspension systems including inputs, logic, and actuators, and four wheel alignment. Wheel alignment factors and procedures, Steering and Handling concerns and diagnostics are also covered in detail. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) F

TTEN 151: Internal Combustion Engines – Toyota (6)

The operating principles and function of each of the major parts of the reciprocating piston internal combustion engine are presented and discussed. Service, overhaul, and troubleshooting techniques as they relate to each component are also covered. Diagnosis and service of engine cooling and lubrication systems are covered. Diagnostic procedures for engine concerns are practiced. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) S

TTEN 155: Automotive Brakes - Toyota (6)

A course designed to teach students the principles of automotive brakes. Basic concepts and terminology, fundamental principles, diagnosis and overhaul techniques are an integral part of this course. Special emphasis is placed on the study, diagnosis and repair of braking systems found on late model vehicles. The student should acquire knowledge of brake systems and troubleshooting procedures for disc and drum brakes. Students will be taught to properly use industry standard equipment to service disk and drum brake components and systems to manufacture standards. Diagnosis and service of computer controlled systems integrated into the automotive brake system will be studied. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) S



TTEN 168: Automotive Electricity I - Toyota (6)

This is the first of two courses focusing on electrical and electronic systems for T-TEN students. Electrical theory, circuits, and devices such as batteries, starters, alternators and test meters will be covered. All concepts discussed in the classroom will be reinforced in lab. The integration of applied mathematics, chemistry, physics, and other scientific concepts is a large portion of this course. Practical skills established include: component identification, wiring techniques, test equipment usage, safety practices, and appropriate work habits. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) F

TTEN 169: Automotive Electricity II - Toyota (6)

In part one of this sequence the topic of study was centered on basic electrical principles. The identification of different types of circuits and how they work, including the application of Ohm's law to demonstrate the relationship between current, voltage and resistance was also covered. A continuance of the battery and starting systems will carry over briefly as a review and will be discussed when the topics applied to the concepts at hand. In this course we will take those concepts one-step further and apply them directly to the work that a student will do anytime they diagnose an electrical problem. Drawing from their prior learning in part one of this sequence, a student will apply that knowledge in detail toward the diagnosis of electrical systems utilizing all resources available. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) F

TTEN 259: Electronic Engine Controls I - Toyota (6)

Electronic Engine Controls I is the first course of a two part engine performance series for T-TEN students. The series is designed to provide the training to meet the requirements of NATEF for ASE certification area A8. Toyota curriculum is infused to meet the requirements of T-TEN course 852. The course will consist of six instructional units; Basic Engine Operation, Engine Controls Basics, Air Induction Systems, Ignition Systems, Fuel Systems, Fuel Trim. Approximately one fourth of the class will be classroom and three fourths will consist of lecture/lab activities. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) S

TTEN 260: Electronic Engine Controls II - Toyota (6)

Electronic Engine Controls II is the second course of a two part engine performance series for T-TEN students. The series is designed to provide the training to meet the requirements of NATEF for ASE certification area A8. Toyota curriculum is infused to meet the requirements of T-TEN course 852. Toyota course 874 curriculum is also infused in the series. The course will consist of four instructional units; No Start Diagnosis, OBDII Systems and Misfire, Engine Control System Diagnosis, and Emissions Systems. Approximately one fourth of the class will be classroom and three fourths will consist of lecture/lab activities. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) S

TTEN 261: Power Trains - Toyota (5)

Power Trains details the theory, operation, diagnosis and service of modern Toyota drive train components. This includes information on the latest clutches, manual transmissions and transaxles, solid and independent rear axle assemblies, drive shafts, drive axles,

U-joints, CV joints and four wheel drive systems. Basic drive train components such as gears, bearings and seals are identified and explained. This course also includes detailed explanations of the operation of electronically controlled systems. Scan tool use and code retrieval to aid in diagnosis are also covered. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) W

TTEN 263: Automatic Transmissions - Toyota (6)

Provides a comprehensive introduction to automatic transmission theory, service, and diagnostics; including electronic control, hydraulic circuits, torque converters, holding devices, and planetary gear systems. Practical hands-on labs reinforce theories. Students practice component disassembly and reassembly with a variety of Toyota automatic transmissions and transaxles. Students complete all NATEF required tasks related to Automatic Transmission & Transaxles (A2). Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) W

TTEN 280: Cooperative Work Experience (Toyota) (1-13)

Qualified students work at Toyota Dealership's that provide experience required for the T-TEN major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit=33 hours of lab. F, W, S, Su

TTEN 286: Climate Control - Toyota (5)

This course covers Toyota's heating, ventilation, and air conditioning systems and the engine cooling system. Lecture sessions are devoted to the purpose, operational theory, and diagnostic processes common to each of the above areas. Lab sessions are provided to develop student skills in servicing, troubleshooting, and repairing each component within the specific system. Students will work on both components and complete vehicles as part of the learning process. Instructor approval required. 11.5 lecture, 23 lab hrs/wk. (3-week course) W

BUSINESS ADMINISTRATION (BA)

BA 101: Introduction to Business (4)

A one-term survey of modern business concepts including: entrepreneurship, marketing, management, human relations, accounting/finance, and investment. 4 lecture hrs/wk. F, W, S, Su

BA 106: Business Leadership (3)

This is one in a series of three courses designed to introduce students to leadership. Within the scope of topics, students will examine the traits and characteristics of business leaders. Goals, vision, communication, change, coaching, team leadership, leader/follower relations and delegation will also be discussed. 3 lecture hr/wk. S

BA 106A: Business Leadership I (1)

This is one in a series of three courses designed to introduce students to leadership. Within the scope of topics, students will examine traits and characteristics of business leaders. Behavior, influence, conflict, resolution, and team leadership will also be examined. 1 lecture hr/wk. F

BA 106B: Business Leadership II (1)

This is one in a series of three courses designed to introduce students to leadership. Within the scope of topics, students will examine traits and characteristics of business leaders. Optimism, ethics, motivation, praise, networking, and negotiating will also be examined. 1 lecture hr/wk. W

BA 106C: Business Leadership III (1)

This is one in a series of three courses designed to introduce students to leadership. Within the scope of topics, students will examine traits and characteristics of business leaders. Goals, vision, communication, change, coaching, team leadership, leader/follower relations, and delegation will also be discussed. 1 lecture hr/wk. S

BA 116: Principles of Financial Services (4)

This is a one-term course which is designed for students interested in a financial services career. Students gain knowledge of the financial services field and are provided with a basic understanding of products, services, regulations, accounts, cash and checks, and the lending function for banks and credit unions. The course is also relevant for students seeking careers in areas which deal with or interact with financial services companies. 4 lecture hrs/wk. W

BA 128: Accounting Applications I (2)

Accounting Applications I is the first course of a three-term sequence designed to introduce the student to computerized accounting applications and provide extensive hands-on experience in the application of accounting practice and methodology using Microsoft Excel. The course will focus on providing experience with the basic operation of the personal computer in a Windows environment and helping the student gain proficiency in the utilization of spreadsheets and accounting software for solving a variety of financial problems and exercises. Registration-Enforced Corequisite: BA 211 or instructor permission. 1 lecture, 2 lecture/lab hrs/wk. F

BA 129: Accounting Applications II (2)

The second course of a three-term sequence designed to introduce the student to computerized accounting applications and provide extensive hands-on experience in the application of accounting practice and methodology. This course will focus on gaining proficiency in the utilization of spreadsheets and accounting software for solving a variety of accounting problems and exercises. Registration-Enforced Prerequisite: BA 128 with a grade of C or better. Registration-Enforced Corequisite: BA 212 or instructor permission. 1 lecture, 2 lecture/lab hrs/wk. W

BA 130: Accounting Applications III (2)

The third in a three-term sequence designed to provide the student with extensive hands-on experience in the application of accounting practice and methodology with an emphasis on internal accounting. Students will complete numerous accounting applications involving progressively more complex and difficult material in a computerized managerial accounting environment. The course will focus on gaining an understanding of and proficiency in the use of spreadsheets and software for solving a variety of accounting problems and exercises. Registration-Enforced Prerequisite: BA 129 with a grade of C or

better. Registration-Enforced Corequisite: BA 213 or instructor permission. 1 lecture, 2 lecture/lab hrs/wk. S

BA 150: Developing a Small Business (4)

Developing a Small Business is an introductory course designed to introduce students to the important elements and steps involved in starting a small business. Topics discussed are concepts and concerns including entrepreneurship, risks involved with small business, entrepreneurial myths, the feasibility of the small business idea, developing a business plan, marketing strategies, financial projections, human resource considerations, and building a company image. Registration-Enforced Prerequisite: BA 101. 4 lecture hrs/wk. W

BA 151: Practical Accounting I (4)

The first course of a two-term sequence designed to introduce the student to the full cycle of accounting and bookkeeping functions and provide students with a sound basic knowledge of accounting terms, concepts, and procedures. Practical applications of bookkeeping and accounting will be emphasized through various assignments and exercises. 4 lecture hrs/wk. F

BA 152: Practical Accounting II (3)

The second course of a two-term sequence designed to introduce the student to the full cycle of accounting and bookkeeping functions. This course builds on the concepts presented in the first term, providing expanded coverage of operating activities, financial reporting, and accounting for selected balance sheet and income statement items. Accounting concepts are applied using accounting software. Registration-Enforced Prerequisite: BA 151 with a grade of C or better. 2 lecture, 2 lecture/lab hrs/wk. W

BA 165: Customer Service (3)

Provides students with the basic concepts and current trends in the customer service industry. Special areas of emphasis include problem solving, development of a customer service strategy, creating customer service systems, coping with challenging customers, customer retention, and measuring satisfaction. 3 lecture hrs/wk. Su, F, S

BA 177: Payroll Accounting (4)

This course introduces the student to the accounting processes and federal and state laws associated with payroll operations. Using the information learned, the student will calculate payroll transactions and complete the required forms meeting state and federal regulations. A payroll project will introduce the computer as a tool to eliminate many of the repetitive operations that are common to payroll accounting. Registration-Enforced Prerequisite: BA 211 or BA 151 or instructor approval. Minimum grade of C for Accounting Technology majors. 3 lecture, 2 lecture/lab hrs/wk. F

BA 180: Business Mathematics I (3)

Business Mathematics I introduces the student to the mathematics of buying and selling, simple interest, payroll, and banking records. The course will review decimals, fractions, and percents. Registration-Enforced Prerequisite: MTH 020 with a grade of C or better or placement test score. 3 lecture hrs/wk. F, W, S

BA 181: Business Mathematics II (3)

Business Math II is the second course in the Business Math series. In this course, students will learn to calculate present and future value of money, compounding interest amounts, payments, and annual percentage rates. They will also have the opportunity to analyze stock and bond tables, compute depreciation, prepare basic financial reports, and explore business statistics concepts. Students will be required to use a business financial calculator as part of this course. Registration-Enforced Prerequisite: BA 180 with a grade of C or better. 3 lecture hrs/wk. S

BA 206: Management Fundamentals (3)

This is a basic course in management with emphasis on the application of sound managerial practices and techniques. Managerial functions including planning, organizing, leading, and controlling are studied in the framework of this course. Registration-Enforced Prerequisite: BA 101 with a grade of C or better. 3 lecture hrs/wk. F

BA 207: Introduction to E-Commerce (3)

This course provides students with a firm grounding in the technologies, strategies and impact of e-commerce. Broadly defined, e-commerce refers to the use of information technologies, in particular the Internet, in providing support to all types of activities that take place both within and between organizations. Registration-Enforced Prerequisite: BA 101, CIS 120. 3 lecture hrs/wk. S

BA 211: Principles of Accounting I (3)

Principles of Accounting I, the first of a three-term accounting sequence, serves as an introduction to the accounting environment and accounting cycle. Topics covered include transaction analysis, journalizing, posting, adjusting, closing, and financial statement preparation. The course also covers accounting for certain balance sheet items including cash, inventory, accounts, and notes receivable. Prerequisite: Second-year standing for students planning to transfer to a 4-year university and earn their bachelor's degree in business administration. Accounting Technology (A.A.S. degree) majors should enroll in their first year and be concurrently enrolled in Accounting Applications I (BA 128). 3 lecture hrs/wk. F, W

BA 212: Principles of Accounting II (3)

Principles of Accounting II is the second of a three-term accounting sequence and serves as a continuation of BA 211. Topics covered include accounting for fixed assets, introduction to payroll accounting, debt and equity financing, and the statement of cash flows. The course concludes with an introduction to financial statement analysis. Registration-Enforced Prerequisite: BA 211 with a grade of C or better or instructor permission. Accounting Technology and Entry Management majors need to be concurrently enrolled in Accounting Applications II (BA 129). 3 lecture hrs/wk. W, S

BA 213: Principles of Accounting III (3)

Principles of Accounting III is the third course in a three-term accounting sequence. The course builds on concepts presented in BA 211 and BA 212, focusing on the role of providing accounting

information to managers for use in the internal decision-making process. Topics covered include costing goods and services, analysis of variable costs vs. fixed costs, cost-volume-profit relationships, and standard costs and variances. Registration-Enforced Prerequisite: BA 212 with a grade of C or better or instructor permission. Accounting Technology majors need to be concurrently enrolled in Accounting Applications III (BA 130). Registration-Enforced Prerequisite: BA 212 with a grade of C or better or instructor permission. Accounting Technology majors need to be concurrently enrolled in Accounting Applications III (BA 130). 3 lecture hrs/wk. S

BA 214: Business Communications (3)

This course covers strategies of effective business communication. Students will learn and practice a variety of types of business communication. Registration-Enforced Prerequisite: WR 115 or above. 3 lecture hrs/wk. Su, F, W

BA 215: Cost Accounting (4)

This course provides a thorough understanding of cost concepts, cost behavior, and cost accounting techniques as they are applied to various cost systems and as they are used to provide cost information for management use in decision making, planning, controlling, and performance evaluation. Topics covered include cost concepts and behavior, budgeting, flexible budgets and performance analysis, standard costing, performance measurement, differential cost analysis, capital budgeting, financial statement analysis, and profitability analysis. Registration-Enforced Prerequisite: BA 213 with a grade of C or better or instructor permission. 3 lecture, 3 lab hrs/wk. F

BA 218: Personal Finance (3)

Personal Finance will introduce students to concepts related to personal financial planning. Topics covered will include budgeting, evaluating loans, determining property insurance needs, planning for retirement, making personal investment decisions, and completing time value of money calculations. Students will be required to use a business financial calculator in this course. 3 lecture hrs/wk. W

BA 222: Financial Management (3)

This is a first course in corporate finance covering a wide range of topics and issues. Theory will be introduced and practical application will be demonstrated in support of learner outcomes surrounding the financial decision-making process. Registration-Enforced Prerequisite: BA 211 and BA 212. Minimum of C grade for Accounting Technology majors. 3 lecture hrs/wk. S

BA 223: Principles of Marketing (3)

This course is an introduction to marketing as it relates to contemporary living and society's changing needs. The basic components of marketing such as consumer behavior, marketing research, distribution, promotion, customer relationships, social responsibility, and price planning and their inter-relationships are discussed. Course topics include retail, international, service, and non-profit marketing. Case studies, videos, projects, field trips, and guest speakers are used to enhance student learning. Registration-Enforced Prerequisite: BA 101 with a grade of C or better or instructor permission. 3 lecture hrs/wk. S

BA 226: Business Law (4)

Business Law will introduce students to basic law concepts. Students will learn to identify sources of law in the United States, explore the differences between civil and criminal law, recognize the components of legally enforceable contracts, review the Uniform Commercial Code, explore agency relationships, and compare and contrast different business formats. Prerequisite: BA 101 or instructor approval. 4 lecture hrs/wk. W, S

BA 228: Computerized Accounting Systems I (2)

Computerized Accounting Systems I is the first in a three-term sequence designed to introduce second-year accounting students to computer based accounting systems. In this course, computers are used to apply the basic principles and procedures of accrual accounting. Computer accounting applications include general ledger, accounts receivable, accounts payable, invoicing, payroll, inventory, and job costs. Prerequisite: Second year standing in A.A.S. accounting program or instructor approval. Registration-Enforced Corequisite: BA 235. 1 lecture, 2 lecture/lab hrs/wk. F

BA 229: Computerized Accounting Systems II (2)

Computerized Accounting Systems II is the second in a three term sequence designed to introduce second-year accounting students to computer based accounting systems. The emphasis of this course is on the conversion of manual accounting systems to computerized accounting systems. The course utilizes an extended practice set that requires students to maintain a manual accounting system, convert the manual system to a computerized system, maintain the computerized system, and prepare year-end reports using the computerized system. Students become familiar with the special complexities and decisions required during the conversion process and how these decisions affect subsequent procedures. Registration-Enforced Prerequisite: BA 228 with a grade of C or better. Registration-Enforced Corequisite: BA 236. 1 lecture, 2 lecture/lab hrs/wk. W

BA 230: Computerized Accounting Systems III (2)

Computerized Accounting Systems III is the third in a three-term sequence. The focus of this class is on the special requirements of a computerized accounting system used by a non-profit/governmental entity. Students will work through a comprehensive accounting practice set for a fictitious city using commercially available software. Additionally, students will prepare a governmental-style Comprehensive Annual Financial Report using a computerized spreadsheet. Registration-Enforced Prerequisite: BA 229 with a grade of C or better. Registration-Enforced Corequisite: BA 237. 1 lecture, 2 lecture/lab hrs/wk. S

BA 231: Computers in Business (4)

Computers in Business is designed for business students as a second course in using computers. Assignments will build on what was learned in previous computer and business classes. Students will produce professional-style documents using a popular suite of software applications. A final integrative project will be prepared and presented as a group project. Must be a 2nd year major in one of the following AAS programs: Accounting, Business Management, Marketing, or Paralegal. or instructor approval. 4 lecture hrs/wk. F, S

BA 232: Introduction to Business Statistics (3)

This course is a balance between descriptive statistics (tables, charts, frequency distribution, etc.) and inferential statistics, primary tools in business decision making. It is mostly a "how to do it" and "what does it mean" approach of problem solving with little emphasis on the actual theory of statistics. This course will begin with an overview of statistics and foundational concepts. The remainder of the course will include such topics as organization of data, probability, probability of various distributions, sampling distributions and estimations, large sample estimation, and ending on an overview of linear regression analysis. Registration-Enforced Prerequisite: BA 181 or MTH 065 or equivalent. 3 lecture hrs/wk. S

BA 233: Accounting for Managers (4)

The course is designed to provide the non-financial manager with an understanding of accounting and the manner in which it can be used to make financial decisions. Topics covered include: basic business math skills in calculating interest and payroll as well as the mathematics of buying and selling, measuring and reporting of accounting data, analyzing and interpreting accounting information, understanding financial systems and controls, using computer applications of accounting, and performing cost analysis. 4 lecture hrs/wk. W

BA 235: Intermediate Accounting I (3)

Intermediate Accounting I is the first of a three-term sequence designed to introduce second-year accounting students to more complex accounting and reporting issues than those seen in the Accounting Principles courses. The first two terms of Intermediate Accounting focus on accounting for profit oriented business entities, while the third term is exclusively oriented toward accounting and reporting for governmental and not-for-profit entities. Registration-Enforced Prerequisite: BA 213 with a grade of C or better. Registration-Enforced Corequisite: BA 228. 3 lecture hrs/ wk. F

BA 236: Intermediate Accounting II (3)

Intermediate Accounting II is the second of a three-term sequence designed to introduce second-year accounting students to more complex accounting and reporting issues related to accounting for profit oriented business entities. Topics covered include inventory management and valuation, fixed asset management, depreciation, and current and long-term liabilities. Registration-Enforced Prerequisite: BA 235 with a grade of C or better. Registration-Enforced Corequisite: BA 229. 3 lecture hrs/wk. W

BA 237: Intermediate Accounting III (3)

Intermediate Accounting III is the third of a three-term sequence. The focus of this class is on the specialized accounting requirements of Governmental and Not-For-Profit entities. This course explores the peculiarities of fund accounting, the measurement focus of governmental versus private enterprise accounting, and reporting requirements of governmental and other not-for-profit entities. Registration-Enforced Prerequisite: BA 236 with a grade of C or better. Registration-Enforced Corequisite: BA 230. 3 lecture hrs/wk. S

BA 238: Professional Selling (3)

Professional Selling is a basic course dealing with the fundamentals of trust-based selling. Areas specifically studied include understanding the sales industry and selling occupations; promoting self-leadership, building trust, and conducting sales dialogue; prospecting, qualifying, communicating, and relationship building; buyer motivation; creating value; handling resistance; earning commitment; customer concerns; and sales management. 3 lecture hrs/wk. F

BA 239: Advertising (3)

This course is an introduction to effective advertising procedures in today's business world. The course emphasizes the importance of modern, persuasive techniques advertisers use to move goods and services to the consumer. The course explores the historical development of advertising, the importance of consumer research, and the various constraints on advertising. Advertising preparation and the total campaign are studied from the standpoint of copy, layout, various media, budgets and finally buyer motivation. 3 lecture hrs/wk. S

BA 240: Introduction to Auditing (3)

Introduction to Auditing is an introductory course in auditing procedures and practices. It includes the audit process and environment, the audit profession, professional standards, financial statement examination, substantive testing procedures, and workpaper preparation. Registration-Enforced Prerequisite: BA 235 or instructor permission. 3 lecture hrs/wk. W

BA 249: Retailing (3)

Designed to acquaint students with the nature and scope of retailing. Topics studied include: history of retailing, managing retail operations, including financial planning, merchandise buying and handling, store location, design and layout. Retailing is examined as a major economic force in this country and as a significant area for career opportunities. 3 lecture hrs/wk. W

BA 250: Managing the Small Business (3)

An introductory course in the fundamental elements of managing a small business. 3 lecture hrs/wk. S

BA 253: Social Media Marketing (3)

Social Media Marketing (3) Social Media Marketing covers the basics of social media marketing, creating online conversations through social media outlets, social media strategy, branding through social media sites, value in the organization's content, and aligning offline marketing strategies with social media. Instructor-Enforced Prerequisite: BA101, BA231, BA223 or instructor approval. 3 lecture hrs/wk. S

BA 256: Tax Accounting I (3)

Tax Accounting I is the first of a two-term sequence and introduces federal income taxation of individuals. Students will study issues affecting preparation of the individual return leading to the completion of the 1040EZ, 1040A, 1040 (long form), and supporting schedules. In addition, Turbo Tax software will be used to prepare tax returns. Registration-Enforced Prerequisite: BA 213 with a grade of C or better or instructor permission. 3 lecture hrs/wk. W

BA 257: Tax Accounting II (3)

Tax Accounting II is a continuation of Tax Accounting I. This course continues coverage of federal income taxation of individuals and provides an introduction to tax laws affecting individuals involved with partnerships and corporations. Students will complete a variety of practical applications both manually and using computerized tax return preparation software. Registration-Enforced Prerequisite: BA 256 with a grade of C or better or instructor permission. 3 lecture hrs/wk. S

BA 280: Cooperative Work Experience: Business (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su, BA

BA 280A: Cooperative Work Experience: Accounting (1-13)

BA 280B: Cooperative Work Experience: Marketing (1-13)

BA 280C: Cooperative Work Experience: Management (1-13)

BIOLOGY (BI)

BI 101,102,103: General Biology (4,4,4)

A non-majors course designed to provide students with the scientific principles that describe and explain life processes and living systems. Laboratory experiences reinforce principles and concepts covered in class. Note that the order of topic presentation in this sequence may not match the order at other institutions. Please see an advisor.

BI 101: The principles of evolution, natural selection and speciation, origin of life, diversity of life, classification and diversity of groups of organisms including viruses, bacteria, protists, fungi, plants and animals; principles of ecology, including populations, communities, ecosystems, and the biosphere, and animal behavior. F

BI 102: Plant structure and function, with emphasis on flowering plants; animal structure and function, with emphasis on human biology. W

BI 103: Chemistry of life; cell structure, function, metabolism, division; heredity and molecular genetics. S

Courses need not be taken in sequence. 3 lecture, 3 lab hrs/wk.

BI 211, 212, 213: Principles of Biology (5,5,5)

Designed for science and pre-professional medical majors.

BI 211: Chemistry of life; origins of life; population genetics and natural selection; diversity of prokaryotes and eukaryotes; ecology of biomes, communities and populations; conservation biology. Registration-Enforced Prerequisite/Corequisite: CH 104, CH 112 or CH 221. F

BI 212: Cell structure and function; cellular metabolism; cell division; heredity; molecular genetics and biotechnology; molecular evolution. Registration-Enforced Prerequisite: either BI 211, FOR 111 or NR 201; AND either CH 104, CH 112 or CH 221; all with a grade of C or better, or instructor approval. W

BI 213: Plant structure and function: animal structure, function and behavior. Registration-Enforced Prerequisite: BI 212. S

Courses must be taken in sequence. Except Forestry students who may take BI 212 separately. 4 lecture, 3 lab hrs/wk.

BI 222: Introduction to Genetics (3)

Focusing primarily on human genetics, this course includes cell division and gamete formation; patterns of inheritance and gene expression; DNA replication, gene transcription, and translation; mutations and their consequences; population genetics and human evolution; the genetics of immunity and cancer; biotechnology and gene therapy; and reproductive technologies and genomics. Registration-Enforced Prerequisite: CH 104, CH 112, or CH 221; previous biology course recommended. 3 lecture hrs/wk. W, F, S, Su

BI 231, 232, 233: Human Anatomy & Physiology (4,4,4)

An introductory course on the structure and function of the various systems in the human body. Designed to meet the needs of nursing students and students in other allied health programs. This course will cover the organization of the body, homeostasis, cell biology tissues, integument, the skeletal system and the muscular system. BI 231, 232, 233 must be taken in sequence or with consent of instructor.

BI 231: Organization of the body, homeostasis, cell biology, tissues, integument, the skeletal system, the muscular system. Registration-Enforced Prerequisite: CH 104 or CH 112. F, W

BI 232: Nervous system, special senses, endocrine system, blood and cardiovascular system. Registration-Enforced Prerequisite: BI 231. W, S

BI 233: Lymphatic system, immune system, respiratory system, digestive system, nutrition, metabolism, urinary system, reproductive systems, genetics. Registration-Enforced Prerequisite: BI 232. S, Su

3 lecture, 3 lab hrs/wk.

BI 234: Microbiology (4)

Structure, physiology, metabolism, genetics, growth and control of prokaryotes, eukaryotes, and viruses; human disease, immunity and disease agents; the role of micro-organisms in nature. Laboratories emphasize aseptic techniques, microscopic observation, metabolic differentiation and identification of bacteria. Registration-Enforced Prerequisite: CH 104, CH 112 or CH 221, previous course in biology recommended. 3 lecture, 3 lab hrs/wk. F, W, S, Su

BI 280: Cooperative Work Experience: Biology (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

BOTANY (BOT)

BOT 203: General Field Botany (4)

This course provides an overview of plant systematics with emphasis on identification of southwestern Oregon native trees, shrubs and herbs. Additional topics will include discussions of local plant evolution, plant communities, fire ecology, and pollination ecology. Field trips are offered. 3 lecture, 3 lab hrs/wk. S

BOT 204: Flowering Plants of Southwestern Oregon and Northern California (4)

This is a hybrid course taught partly online and partly during a six-day field tour of Southwestern Oregon and Northern California. Resources for learning botanical terminology, plant evolution, diversity and classification, common plant family characteristics, and regional plant communities will be delivered online. The use of cameras and field notebooks for documenting plant identification, location and habitat will be emphasized. The field tour will highlight the use of botanical keys to identify native flowering trees, shrubs, and wildflowers while touring through regional plant communities. Students should be reasonably fit and prepared to hike several miles over the course of the tour on easy to moderately difficult trails, and to camp at improved campsites or motels each night. This is an extended spring term course and grades will be awarded after the tour during the following summer term. A fee is required to cover transportation, food and lodging. 33 lecture hrs. online, 33 lab hrs. on the tour. S

CHEMISTRY (CH)

CH 104, 105, 106: Introductory Chemistry (4,4,4)

Introductory Chemistry Sequence. Serves as preparation for CH 221-223 for those lacking high-school chemistry or preparation beyond MTH 095. Sequence required for some bachelor's degrees granted at other institutions (i.e. Dental Hygiene at O.I.T.) Some AAS degree programs require only CH 104 — see specific programs for details. Students must be proficient in elementary algebra.

CH 104: measurement and dimensional analysis, properties of matter, elements and compounds, nomenclature, periodic table and trends, chemical equations, stoichiometry, atomic structure. Registration-Enforced Prerequisite: MTH 065 or higher. F

CH 105: bonding, gas laws, liquids, solutions, acids, bases, ionization, neutralization, chemical equilibrium, nuclear chemistry, oxidation-reduction. Registration-Enforced Prerequisite: CH 104. W

CH 106: organic and biochemistry. Registration-Enforced Prerequisite: CH 105. S

Courses must be taken in sequence. 3 lecture, 3 lab hrs/wk.

CH 112: Fundamentals of Chemistry (5)

This is a one-term entry-level chemistry course designed for individuals not previously exposed to chemistry. Basic knowledge and skills are developed in Inorganic, Organic, and Biochemistry for general application in a wide range of professions. Registration-Enforced Prerequisite: MTH 065 or higher or math placement test score. 4 lecture, 3 lab hrs/wk. F, W, S, Su

CH 221, 222, 223: General Chemistry (5,5,5)

Sequence designed for science and pre-medical majors and engineering majors.

CH 221: Topics include atomic structure, stoichiometry, thermodynamics, periodic trends, bonding, molecular structure. Registration-Enforced Corequisite: MTH 111 or higher and Registration-Enforced Prerequisite: CH 104, CH 112, GS 105, or instructor approval. Instructor approval will be granted for students that have taken high school chemistry if copy of high school transcripts or other documentation of successful course completion is provided to UCC Science Department. 4 lecture, 3 lab hrs/wk. F

CH 222: States of matter, solution chemistry, kinetics, and equilibrium. Registration-Enforced Prerequisite: CH 221. W

CH 223: Gas laws, electrochemistry, nuclear chemistry, coordination chemistry, descriptive inorganic, introduction to organic chemistry. Registration-Enforced Prerequisite: CH 222. S

Courses must be taken in sequence, or with consent of instructor. 3 lecture, 1 recitation hrs, 3 lab hrs/wk.

CH 241, 242, 243: Organic Chemistry (4,4,4)

Sequence designed for science and pre-professional medical majors.

CH 241: molecular structure and bonding, functional groups, acids-bases, alkanes, stereochemistry, addition reactions, free-radicals, alkenes and alkynes. Registration-Enforced Prerequisite :CH 223. F

CH 242. addition reactions, free-radicals, alcohols and ethers, conjugated systems, spectroscopy, aromatics. Registration-Enforced Prerequisite: CH 241. W

CH 243: aldehydes and ketones, carboxylic acids and derivatives, amines, phenols, macromolecules. Registration-Enforced Prerequisite: CH 242. S

Courses must be taken in sequence, or with consent of instructor. 3 lecture, 3 lab hrs/wk.

CH 280: Cooperative Work Experience: Chemistry (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year.

Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

COMPUTER INFORMATION SYSTEMS (CIS)

CIS 100 Introduction to Windows and PCs (3)

This course is designed as an introductory computer course for students with limited to no previous computer experience in all fields. Course content includes using Microsoft Windows, basic word processing, a web browser, internet skills, file management, and email. Students will also be exposed to a Learning Management System (LMS). 3 lecture hrs/wk. F, W, S, Su

CIS 111: Computer Systems Configuration (4)

This is an introduction to computer hardware. The course is designed to supplement the Computer Information Systems training to the extent that the student can install, configure,

troubleshoot and do simple repairs of computing hardware systems. Students will be exposed to the tools and equipment used in a hardware oriented laboratory environment. Registration-Enforced Prerequisite: CIS 120 or instructor approval. 3 lecture, 3 lecture/lab hrs/wk. F

CIS 120: Intro to Computer Information Systems (4)

This course is designed as an introductory digital literacy course for students in all fields. Course content includes an overview and history of the field, basic computer architecture, auxiliary storage and file organization, data communications, with "hands-on" work using modern business application software packages on the microcomputer including word processing, spreadsheets, database, graphics, and communications as tools used in data processing. CIS majors are urged to enroll in CIS 122 in the Fall, concurrent with this course. 4 lecture hrs/wk. F, W, S, SU

CIS 122: Orientation to Programming (4)

This course is an introduction to problem solving and programming. Students will be introduced to an integrated Development Environment, tools and techniques of problem solving and the basic elements of well-structured programming. Visual C# or another modern programming language will be introduced. CIS 120 should be taken prior to or concurrent with this course. Registration-Enforced Prerequisite: MTH 095 or equivalent; placement into WR 121 or higher. 3 lecture, 2 lecture/lab hrs/wk. F

CIS 125A: Computer Application for Auto Technicians (3)

This course is an introduction to computers and computer applications focused on the needs of the Automotive Tech student. Course work will include an overview of the use of computers in parts inventory, management and customer service applications. It will look at using the computer as a word processor to assist in creating professional documents in support of a small business. The course will also look at using spreadsheets as basic business management tools and as computation tools for automotive applications. A final module will cover the use of the computer as a basic communications tool to access industry supported bulletin boards and databases. Prerequisite: Automotive major. 2 lecture, 2 lecture/lab hrs/wk.

CIS 125D: Computer Applications – Database (3)

This course will serve as an introduction to development and use of a modern database application. Course work will focus on proper design fundamentals used for database creation. Emphasis will be on using available DBMS tools for data entry forms and report generation. Registration-Enforced Prerequisite: CIS 120 or instructor approval. 2 lecture, 2 lecture/lab hrs/wk. S

CIS 125E: Computer Applications – Email (2)

This course serves as an introduction to email software. The course is lab-oriented and will focus on learning the functions of a modern email program. In addition, this course will go beyond the basics, covering concepts such as advanced message options; calendar and contact management; data files; and basic email client security. Prerequisite: Basic keyboarding skills or instructor approval. 1 lecture, 2 lecture/lab hrs/wk. F

CIS 125H: Writing Web Pages (2)

This course will be an introduction to the HTML language. Students will learn to write web pages. Topics will include: HTML commands,

hyperlinks, use of graphics, and a basic introduction to JavaScript. Prerequisite: Experience with current Windows operating system or instructor approval. 1 lecture, 2 lecture/lab hrs/wk. F

CIS 125R: Computer Applications – Presentation Software (2)

This course will serve as an introduction to presentation software. It is lab-oriented and will focus on using a modern presentation software application to create, modify, customize and preview slide show presentations. Students will manage presentations, work with text and visual elements; manipulate program features to enhance slide shows. Import and export of files from Microsoft Word and Excel, and the use sound and video clips in presentation; and create hyperlinks to other slides, presentations, applications, or the Internet. Students will learn to implement design principles to create professional-looking presentations. 1 lecture, 2 lecture/lab hrs/wk. F

CIS 125S: Computer Applications – Spreadsheets (3)

This course is a continuation of topics covered in CIS 120. This course is lab-oriented and will focus on the functions of a modern spreadsheet program. In addition, advanced formulas and functions, data presentation, and data management features of an integrated suite will be covered. Registration-Enforced Prerequisite: CIS 120 or instructor approval. 2 lecture, 2 lecture/lab hrs/wk. W

CIS 125W: Computer Applications – Word Processing (3)

This course will serve as an introduction to microcomputers and their applications in business. The course is lab-oriented and will focus on using a modern word processing program. Terminology and concepts regarding microcomputers and their peripherals will also be covered. Emphasis is placed on developing confidence in use of computer hardware and software. Prerequisite: Keyboarding skills or instructor approval. 2 lecture, 2 lecture/lab hrs/wk. S

CIS 133CS: Introduction to Programming I – Visual C# (4)

This course is a continuation of CIS 122. Students will learn and apply programming concepts using a high-level programming language. This course will emphasize all phases of program development for the business environment including program design, development, documentation, test, implementation and maintenance. Particular attention will be directed toward the use of structured programming techniques. The course will provide an introduction to writing programs to handle data files and interactive applications. Object orientation and design concepts will be introduced in this course. Registration-Enforced Prerequisite: CIS 122 and CIS 120, or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. W

CIS 135: Applications Development for Computers (3)

Students will learn to use a mainstream suite of applications. Applications will include, but not be limited to, word processing, database (DBMS), spreadsheet, and graphic presentations. The suite will be used to develop a representative business situation where the ultimate goal is integration of the various applications for correspondence, financial records, inventory management, and company presentations. Focus will be on determining, projecting, and meeting business needs within the confines of the application suite. Top down programming methods will be applied to the business situation and needs assessment as the primary method used to understand the business and its goals. Prerequisite: CIS 120

or instructor approval. 2 lecture, 2 lecture/lab hrs/wk. (not regularly offered)

CIS 140L : Introduction to Linux Operating Systems (4)

This course is a lab-oriented study of operating systems preparing students for an industry-based certification such as Comp TIA's Linux+ examination. The course includes the installation and administration of a desktop operating system as well as management, troubleshooting, and optimizing techniques. Registration-Enforced Corequisite: CIS 120 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. Su

CIS 140M: Introduction to Microsoft Operating Systems (4)

This course is a lab-oriented study of Microsoft desktop operating systems and prepares students for a Microsoft industry-based desktop certification. Topics include installation, management, and administration techniques as well as troubleshooting and optimization techniques using physical and virtual machine technology. Registration-Enforced Corequisite: CIS 120 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. F

CIS 140W: Introduction to Windows (2)

An introduction to the Windows operating system, the class will focus on working with windows, menus, dialog boxes, properties, shortcuts, Windows Explorer, Windows accessory applications and other Windows topics. 1 lecture, 2 lecture/lab hrs/wk. S

CIS 145: Computer Forensics for Ethical Hackers (4)

This course introduces students to the technologies and theory of computer forensics. This course is designed for system administrators, system engineers, and operators responsible for cybersecurity. Students will learn the application of computer investigation and analysis techniques to gather potential legal evidence, which is often available due to computer crime or misuse, theft of trade secrets, theft of or destruction of intellectual property, and fraud. Students will learn the basic principles and skills required to identify an intruder's footprints, properly gather applicable evidence, and safeguard it for law enforcement. Technologies covered may vary by term, depending on industry trends. Registration-Enforced Prerequisites: CIS 111 and CIS 140M or CIS 140L. 3 lecture, 2 lecture/lab hr/wk. S

CIS 151C: Networking Essentials (4)

This course serves as an introduction to networking and Cisco networking technologies. Instruction includes, but is not limited to, networking, network terminology and protocols, network standards, local-area networks (LANs), wide-area networks (WANs), the Open System Interconnection (OSI) and TCP/IP models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Emphasis is applied to the use of decision-making and problem-solving techniques to resolve networking problems. In addition, instruction and training are provided in the proper care, maintenance, and use of networking software, tools and equipment and applicable safety, building and environmental codes and regulations. This is the first of a four-course sequence that prepares students for the CCNA (Cisco Certified Network Administrator) certification. Registration-Enforced Prerequisite: CIS 120 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. S

CIS 152C: Introduction to Basic Switching and Routers (4)

This course serves as the second in a series of four courses and focuses on providing students with classroom and hands-on experience in current and emerging network technologies. Instruction includes, but is not limited to, logical and physical network models, local area networks (LANs), wide area networks (WANs), transmission control protocol/Internet protocol (TCP/IP) addressing, switches, switch configuration, routers, router configuration, routing and routing protocols, switch and router image management, and network troubleshooting. Emphasis is applied to understanding the nature and components of networks that make up LANs, WANs and the Internet. Students will become familiar with the use of command-line tools and protocols used to configure network devices, and will learn how to troubleshoot a switch- and-router-based network topology. Registration-Enforced Prerequisite: CIS 151C or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. F

CIS 153C: Intermediate Routing & Switching (4)

This course serves as the third in a series of four courses and focuses on providing students with classroom and hands-on experience in current and emerging networking technologies. Instruction includes, but is not limited to, a review of logical and physical reference models, local area network (LAN) switching and routing. Ethernet and virtual LANS (VLANS), LAN design, routing and switching protocols, router and switch image management, and network troubleshooting techniques. Registration-Enforced Prerequisite: CIS 152C or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. Su

CIS 154C: Wide Area Network Protocols (4)

This course serves as the last course in a series of four courses and focuses on providing students with classroom and hands-on experience in current and emerging networking technologies. Instruction, includes, but is not limited to, a review of local area network (LAN) switching, virtual LANs, LAN design, routing protocols, access lists, wide area networks (WANs), logical and physical reference models, device management, and WAN protocols. Registration-Enforced Prerequisite: CIS 153C or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. Su

CIS 195: Authoring for the World Wide Web I (4)

Techniques and tools for designing and publishing on the World Wide Web; hypertext and HTML; site and page design; media integration; issues raised by Internet publishing. Registration-Enforced Prerequisite: CIS 133CS or CS161 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. F

CIS 233CS: Introduction to Programming II – Visual C# (4)

Continues Visual C# programming sequence utilizing arrays, objects, relational database access and data structures. Structured design techniques emphasized throughout. Registration-Enforced Prerequisite: CIS 133CS and CIS 275 or instructor approval (CIS 275 may be taken concurrently). 3 lecture, 2 lecture/lab hrs/wk. S

CIS 240M: Installing and Configuring Microsoft Windows Server (4)

This course serves as the first in a series of three courses centered around managing Microsoft servers in an Active Directory domain

environment. Instruction includes, but is not limited to: Windows server installation and requirements; IPv4 management and implementation; server storage solutions; Hyper-V; Windows Containers; high availability; WSUS, and patch management. This course will help students prepare for a current Microsoft Certified Professional (MCP) Exam. Registration-Enforced Prerequisites: CIS 120 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. W

CIS 244: Systems Analysis and Design (4)

This course is designed to provide the CIS student with a basic understanding of the importance of the Systems Analysis function in today's computer-focused businesses and institutions. It will enable students to better appreciate the importance of the role of the Systems Analyst, the Programmer, the User and the Manager in the development and implementation of modern, computer based, information systems. The students will participate in a series of activities including group discussions, case studies, interviews, research reports, role playing and structured walkthroughs. Throughout the course, emphasis will be placed on human interaction situations with particular focus on teaming. A secondary goal of this course will be to introduce students to many of the styles and structures of technical documentation that they will be expected to use in their subsequent employment. These documentation techniques will be taught in the context of the systems analysis project. Prerequisite: Second year CIS major or instructor approval. 4 lecture hrs/wk. (not currently offered)

CIS 245: Project Management (4)

Project Management - Information Systems Study practical approaches for managing, planning, organizing and implementing Information Systems projects using modern management techniques. Complete hands-on projects requiring management of project resources, scope, time-line, cost, scheduling, human and other resources. Use Microsoft Project and other project monitoring tools. Registration-Enforced Prerequisite: CIS 120 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. S

CIS 275: Introduction to Database Management Systems I (4)

Students will be introduced to database management systems (DBMS). Topics include database theory and practice, administration, table creation, database normalization and structured query language (SQL). Students will use the tools of the DBMS to develop applications that include input screens, queries, reports and batch processes to automate a typical business computer application. Students will begin to learn and modify computer-generated programs to customize an application. Registration-Enforced Prerequisite: CIS 133VB, CIS 133CS, CS161 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. S

CIS 276: Introduction to Database Management Systems II (4)

A continuation of the concepts and software expertise developed in CIS 275. Students will cover advanced SQL and database administration techniques and program on an enterprise level database. Registration-Enforced Prerequisite: CIS 275 and CIS 233CS or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. F

CIS 279M: Microsoft Windows Server Administration I (4)

This course is the second in a series of three courses centered around managing Microsoft servers in an Active Directory domain

environment. Instruction includes, but is not limited to: IPv4 and IPv6 management and implementation; DNS; DHCP and IPAM; NAT; remote access and VPNs; DirectAccess; Network Policy Server (NPS); DFS and branch office solutions; and RADIUS. This course will help students prepare for a current Microsoft Certified Professional (MCP) Exam. Registration-Enforced Prerequisite: CIS 240M or instructor approval. 3 lecture, 2 lecture/ lab hrs/wk. S

CIS 280: Cooperative Work Experience: Computer Information Systems (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

CIS 284: Network Security Fundamentals (4)

This course serves as an introduction to network and information technology security and prepares the student for further study in the field. Instruction includes, but is not limited to, threat migration; cryptography; authentication and role-based security; encryption and device security; the public key infrastructure; messaging security; ports and protocols; and business continuity concepts. This course will help students prepare for a current industry recognized security certification exam. Registration-Enforced Prerequisite: CIS 240M or instructor approval. 3 lecture, 2 lecture/ lab hrs/wk. W

CIS 285A: Ethical Hacking (4)

This course focuses on hacking techniques and technologies, with an emphasis on the ethics and legality of hacking. Course content will include coverage in topics such as scanning, testing, and hacking of systems such as PCs, switches, and web servers. Students will also learn about the attack process, intrusion detection, intrusion prevention, social engineering, DDoS and other attacks, buffer overflows, and virus creation. All activities are performed in a safe environment and no actual network is harmed. Registration-Enforced Prerequisite: CIS 152C or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. W

CIS 285B: Advanced Network Device Security (CCNA Security) (4)

This course is a Cisco Networking Academy course, mapped to the Cisco Certified Network Administrator Security (CCNA Security) industry credential. This course will expose students to the array of security features that can be implemented using Cisco switches and routers. Instruction will include, but is not limited to, authentication methods, common network attacks and how to safeguard against them, communication security (remote access, e-mail, the web, directory and file transfer, and wireless data), infrastructure security (network devices and media), and the proper use of perimeter topologies such as demilitarized zones (DMZs) to establish network security. Cryptography basics are also introduced, including the differences between asymmetric and symmetric algorithms, and the different types of Public Key Infrastructure (PKI) certificates

and their usage. Operational/organizational security is discussed as it relates to physical security, and disaster recovery. Registration-Enforced Prerequisite: CIS 152C or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. W

CIS 285C: Cloud Services Technologies (3)

This course introduces students to the technologies and theory of Infrastructure as a Service (IaaS) using common cloud providers such as Microsoft Windows Azure and/or Amazon Web Services (AWS). Students will learn cloud computing, cloud storage and content delivery, cloud database types and uses, cloud networking (private and hybrid uses), cloud security, cloud deployment and management; and Enterprise IT applications. Registration-Enforced Prerequisite: CIS 288M or instructor approval. 3 lecture hrs/wk. S

CIS 286A: Virtualization Technologies (3)

This course introduces students to the technologies and theory of operating system virtualization. This course is designed for system administrators, system engineers, operators responsible for creating and implementing virtualization. Students will learn installation, configuration, and management of Hyper-V and Hyper-V Manager; and/or VMware vSphere, which consists of VMware ESXi and VMware vCenter Server. This course is based on the current versions of Hyper-V, ESXi, and vCenter Server. Technologies covered will vary by term, depending on industry trends. Registration-Enforced Prerequisite: CIS 288M or instructor approval. 3 lecture hrs/wk

CIS 288M: Microsoft Windows Server Administration II (4)

This course is the third in a series of three courses centered around managing Microsoft servers in an Active Directory domain environment. Instruction includes, but is not limited to: Active Directory; group policy objects; Active Directory Certificate Services; Active Directory Federation Services; Web Application Proxy; and Active Directory Rights Management Services. This course will help students prepare for a current Microsoft Certified Professional (MCP) Exam. Registration-Enforced Prerequisite: CIS 240M or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. F

CIS 289M: Microsoft Windows Server Administration III (4)

This course serves as the fourth in a series of four courses centered around managing Microsoft servers in a domain environment. Instruction includes, but is not limited to advanced network and file services; dynamic access control; network load balance; failover clustering; disaster recover; AD Certificate Services; and AD Federation Services. This course will help students prepare for a current Microsoft Certified Professional Exam. Registration-Enforced Prerequisite: CIS 240M or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. (not currently offered)

CIS 295: Authoring for the World Wide Web II (4)

Designing, developing, publishing, and maintaining dynamic websites; Web security and privacy issues; emerging Web technologies. Prerequisite: CIS 195 and CIS 275 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. W

CIS 297: Capstone Project (4)

(This course is currently not being offered.) Student will develop an individual "real-world" project to demonstrate the ability to apply the concepts covered in the Computer Information Systems (CIS) curriculum. With guidance from a faculty advisor, students will analyze, design, program and document a database, web-based or network system. Emphasis will be placed on working effectively with clients, professional work habits, and documentation. Registration-Enforced Prerequisite: Instructor approval; 1 lecture, 9 lab hrs/wk.

CIVIL ENGINEERING (CIV)

CIV 214: CAD-Civil3D and Virtual Design (3)

This course uses Autodesk Civil 3D program to produce virtual design and drawings for civil engineering projects. Drafting practices are used to prepare site plans, layout building sites, and develop construction drawings of infrastructure. Design and building information models are used for making estimates of quantities and cost, and for determination of constructability problems. Registration-Enforced Prerequisite: DRF 112. 2 lecture, 2 lecture/lab hrs/wk. S

CIV 280: Cooperative Work Experience: Engineering (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year, except for students taking Occupational Skills Training (OST) which has a limit of 24 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

CRIMINAL JUSTICE (CJ)

CJ 100A: Law Enforcement Skills Training (2)

A variety of topics including: First Aid & CPR, Tactical Communication, Special Event Ops, Radio Communications, Search & Handcuffing, Confrontational Simulation, Chemical Agents. Corequisite: CJ 105 and CJ 110. Prerequisite: Acceptance into Police Reserve Academy. 4 lecture/lab hrs/wk. F

CJ 100B: Law Enforcement Skills Training (2)

A variety of topics including: Emergency Vehicle Ops, Control Holds, Expandable Baton, Traffic Control, Crowd Control, Tactics & Strategies in Buildings and Open/Wooded Areas. Corequisite: CJ 120 and CJ 212. Prerequisite: Acceptance into Police Reserve Academy. 4 lecture/lab hrs/wk. W

CJ 100C: Law Enforcement Skills Training (2)

A variety of topics including: Vehicle Stops, Defensive Tactics, Bicycle Patrol, Firearms. Corequisite: CJ 109 and CJ 112. Prerequisite: Acceptance into Police Reserve Academy. 4 lecture/lab hrs/wk. S

CJ 101: Introduction to Criminology (3)

This course is designed as an introduction to the study of crime and criminal behavior. One segment covers concepts of crime and criminology, the nature and extent of crime, and victims and victimization. A second segment covers theories of crime causation, including choice and trait theories, social structure,

social process, and social conflict theories, and developmental theories. A third segment covers crime typologies, including violent crimes, property crimes, enterprise crimes (white-collar, organized, and cyber crimes), and public order crimes. The final segment looks at the criminal justice system, including various functions of the system as well as different models applied to the field. 3 lecture hrs/wk. S. Available online F.

CJ 105: Concepts of Criminal Law (3)

This class is designed to introduce students to the basic concepts underlying criminal law. Topics covered will include the origins of criminal law, the basic requirements of a criminal act, the limitations of criminal liability, types and classifications of criminal law, and procedural defenses. Additional topics covered include constitutional limits on law, inchoate crime, and criminal culpability levels. 3 lecture hrs/wk. F. Available online Su.

CJ 109: Contemporary Issues in Criminal Justice (3)

This course provides an intermediate look at modern criminal justice practices, operations, and issues. The Criminal Justice student and prospective law enforcement employee will develop a view of criminal justice careers from both theoretical and practical perspectives. This course will cover contemporary issues in operations and policies that include philosophies, criminal justice organization, management and supervision, crime control, and efficiency. 3 lecture hrs/wk. S (offered alternate years)

CJ 110: Introduction to Law Enforcement (3)

A study of law enforcement that emphasizes police work at the community level. Students will review the history and evolution of law enforcement, the criminal justice system and the future of law enforcement. Particular areas of study include criminal law, responsibilities of law enforcement, community relations, accountability and corruption, values and judgement and careers in law enforcement. 3 lecture hrs/wk. F

CJ 112: Field Operations and Patrol Procedures (3)

To introduce the student to the nature and purpose of patrol activities for the law enforcement officer. Includes tactics and strategies, routine and emergency procedures, types of patrols, crime prevention, and community policing. Prerequisite: Acceptance into Police Reserve Academy. 3 lecture hrs/wk. S

CJ 114: Cultural Diversity Issues in Criminal Justice (3)

This course looks at the relationship between the criminal justice system, cultural and other diversity, and police/community dynamics. Focusing on positive police/citizen contacts, the principle emphasis will be on the importance of a continuing dialogue between law enforcement and all segments of the community. Students will acquire an understanding of cultural norms and their impact on criminal justice interactions. Other relevant issues such as hate crimes and racial profiling will be covered. 3 lecture hrs/wk. S

CJ 120: Introduction to Judicial Process (3)

This course presents an examination of the responsibilities of each segment of the justice system. These segments include law enforcement, the judicial process and the courts, duties and responsibilities of corrections agencies, and the functions of related administrative agencies at the local, state, and federal levels. Past,

present, and future relationships of these systems will be analyzed. 3 lecture hrs/wk. W

CJ 130: Introduction to Corrections (3)

This course provides an overview of the American corrections system including its history, processes, purposes and goals. Course study will introduce the student to institutional and penal systems that include detention facilities, jails, prisons, and work release facilities. This course provides both a practical and theoretical perspective of the need and purpose for offender confinement and post-conviction jurisdiction within a free society. Supervision and management of confined and released offenders, juvenile and adult, will be reviewed. 3 lecture hrs/wk. S

CJ 140: Introduction to Criminalistics (Forensic Science) (3)

This is an introductory course in forensic science. Forensic science or criminalistics applies the knowledge and technology of science for the definition and enforcement of laws, and to the solution of criminal offenses. Course study will include development of the principles and techniques used to compare and identify physical evidence collected at crime scenes. The course will explore services performed by evidence collection teams as well as activities of forensic scientists in the crime labs. 3 lecture hrs/wk. W

CJ 169: Terrorism and Homeland Security (3)

This course examines the basic history, evolution and effects of terrorism on both domestic and international levels. Through historical and objective analysis the course is intended to provide a basic foundation for the root cause of terrorism and how terrorism is confronted by political, diplomatic, law enforcement and military intervention. This course provides a basic understanding of the various threats from terrorism, and the ability of terrorists to advance a political agenda, raise funds, and use the media to promote their vision ideology. 3 lecture hrs/wk. W, Su

CJ 203: Crisis Intervention (1)

An overview of the techniques and approaches to crisis intervention for entry-level criminal justice professionals. Covers initial intervention, defusing and assessment, resolution and/or referral, with emphasis on safety. Includes personal effectiveness, recognition of threat levels, voluntary compliance, verbal and non-verbal communication, active listening, and mediation. 1 lecture hr/wk. W

CJ 210: Criminal Investigations (3)

This course concentrates on the fundamentals of criminal investigation. The responsibilities of the preliminary crime scene investigator will be thoroughly studied. Areas of specific review will include: crime scene management; the collection, preservation, and recordation of recovered evidence; interview techniques; surveillance operations; follow-up investigations; report writing; and court procedures. 3 lecture hrs/wk. S

CJ 211: Ethics in Criminal Justice (3)

This course examines the major concepts of ethics and its relationship to criminal justice system functions. The course will focus on the values, morality and ethics that guide today's criminal justice professional. Supplementing the text will be case studies from Oregon Department of Public Safety Standards and Training and other current sources. 3 lecture hrs/wk. W

CJ 212: Report Writing for Criminal Justice (3)

The fundamentals of writing law enforcement reports including definitions, type, needs, and objectives. Emphasis will be on preliminary crime reports, arrest reports, evidence reports, and administrative reports. Students will obtain the necessary knowledge to investigate, interview, and distill general information into documented facts. Prerequisite: Acceptance into Police Reserve Academy. 3 lecture hrs/wk. W

CJ 216: Law Enforcement Supervision & Management (3)

This course provides an in-depth examination of the role and responsibilities of the first-level supervisor and manager/ command officer in the specialized field of law enforcement. Principles of effective leadership, team-building and specific operational issues related to law enforcement are also addressed. 3 lecture hrs/wk. F

CJ 226: Intro to Constitutional Law (3)

This course provides an examination of the role of the U.S. Constitution in the development of criminal law and procedures. Emphasis is placed on relevant historic and political factors that have influenced constitutional criminal procedures, and the practical effect that case law has on the methods and extent to which the criminal justice community performs its duties. 3 lecture hrs/wk. W (Available online only)

CJ 230: Introduction to Juvenile Justice System (3)

This course provides an introductory perspective of the historical and contemporary aspects of juvenile corrections. Topics covered include the components of the juvenile justice system and its philosophy, functions and goals, the role of law enforcement, the courts, community based corrections, and custodial facilities. Included is an overview of the ongoing debate over the Balanced and Restorative Justice approach in the juvenile justice system, especially as it relates to safety/ security issues and public concern. 3 lecture hrs/wk. S

CJ 232: Introduction to Corrections Casework (3)

Introductory overview of casework in corrections settings. Includes introduction to behavior modification theories and methods, contemporary counseling methods, assessment processes, and the development of officer/client relations. Emphasizes observation skills, perception issues, information gathering, interpersonal communication skills, and interviewing strategies and techniques as part of corrections casework. Registration-Enforced Prerequisite: CJ 230 or CJ 261 or instructor approval. 3 lecture hrs/wk. Su

CJ 240: Criminalistics II (3)

This is a course in forensic science and criminalistics. Forensic science applies the principles and technology of various scientific disciplines to the definition and enforcement of laws and to the solution of criminal offenses. Criminalistics is the collection of disciplines of forensic science commonly practiced in the modern crime lab and in laboratory services applied at crime scenes. This course will build upon basic principles of evidence processing and analysis covered in earlier coursework and integrate them with more advanced and individualizing techniques in forensic science. These include bloodstain pattern analysis, forensic toxicology, trace evidence processing and analysis, DNA, arson investigations and computer forensics. Registration-Enforced Prerequisite: CJ 140, 3 lecture hrs/wk. S

CJ 243: Narcotics and Dangerous Drugs (3)

This course covers the full range of psychoactive drug use, from legal medicinal use to criminal recreational use, from casual use to addiction. Emphasis is on the sociological perspective, explaining the drug phenomenon supported by recent data from a wide range of sources. 3 lecture hrs/wk. F

CJ 261: Introduction to Parole & Probation (3)

This course provides introductory perspectives of parole, probation, and community corrections. The course investigates the purposes of parole and probation as alternatives to incarceration of criminal offenders. Issues related to sentencing recommendations, terms and conditions of probation, day treatment options, group homes, and criteria for violating status are examined. 3 lecture hrs/wk. F

CJ 275: Comparative Criminal Justice Systems (3)

Using a topical approach, this course compares the criminal justice systems in other nations with that in the United States. Underlying sources of law will be covered as well as practices and policies used by different nations in their criminal justice systems. This course will give students a better understanding of the similarities and differences of each system. 3 lecture hrs/wk. F

CJ 280: Cooperative Work Experience: Criminal Justice * (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, SU

CJ 280: Cooperative Work Experience: Law Enforcement/ Corrections * (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab.

*Students may select - either CJ 280 Cooperative Work Experience: OR CJ 298 Criminal Justice Independent Study. F, W, S, SU

CJ 298: Independent Study: Criminal Justice (1-6)

Independent study on subjects outside the course curriculum or in-depth studies of a particular aspect of course content. Affords an opportunity for students with previous study in a subject area to pursue further investigations for credit. Registration-Enforced Prerequisite: Instructor and department chair approval of study plan. 6 credits maximum total credit. F, W, S, Su

COMPUTER SCIENCE (CS)

CS 133U: Programming for Engineers (3)

An introduction to problem analysis and programming in either C++ or Java. This course is intended as an introduction to programming for those with little or no previous experience. The course is designed for engineering majors and emphasis will be on programming engineering and mathematics problems.

Prerequisite: MTH 095. 2 lecture, 2 lecture/lab hrs/wk. (not currently offered)

CS 160: Orientation to Computer Science (4)

This course explores the discipline and profession of computer science. It provides an overview of computer hardware architecture, the study of algorithms, software design and development, data representation and organization, ethics and the history of computing and its influences on society. The student is exposed to both low-level and high-level programming languages. May be offered online. Registration-Enforced Prerequisite: MTH 095 or equivalent. 3 lecture, 2 lecture/lab hrs/wk. F

CS 161: Computer Science I (4)

This is an introduction course to computer science. Topics covered are: Algorithms, programming concepts, programming in a structured language, and computer applications. The C++ or the Java language will be introduced. Prerequisite: CS160 or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. W

CS 162: Computer Science II (4)

This course is a continuation of CS 161 and introduces the student to the use of a variety of data structures. Topics include: string operations, records, stacks, queues, trees, recursion, sorting, linked lists, searching data structures. Programs will be written either in C++ or Java. Prerequisite: CS 161. 3 lecture, 2 lecture/lab hrs/wk. S

CS 260: Data Structures (4)

This course is intended primarily for students seriously interested in computer science. Students will demonstrate the usage of using advanced data structures, including linked lists and tree structures using pointers, and advanced structure programming methods through a variety of programming projects. Course may be offered online. Registration-Enforced Prerequisite: CS 162 and MTH 111 or higher or instructor approval. 3 lecture, 2 lecture/lab hrs/wk. F

CS 271: Computer Architecture & Assembly Language (4)

This course serves as an introduction to the functional organization and operation of digital computers. Coverage of topics includes assembly language; addressing, stacks, argument passing, arithmetic operations, decisions, macros, modularization, linkers and debuggers. Registration-Enforced Prerequisite: CS 162 or instructor approval. 3 lecture, 2 lab hrs/wk. S

COOPERATIVE WORK EXPERIENCE (CWE)

CWE 161 Seminar I (1)

CWE 161 is intended to help students develop career preparation skills. This process will involve researching job markets, preparing resumes and cover letters, building an employment portfolio, and conducting an informational interview with an employer in a field of their choosing. 1 lecture hr/wk. F, S, Su

CWE 162: CWE Seminar II (1)

This course is planned for students enrolled in business programs. Students will work with a local organization or business to research and complete a project in specific areas of business such as personnel, inventory control, advertising, finance, or marketing. Prerequisite: CWE 161; instructor approval. 1 lecture hr/wk. W

CWE 163: CWE Seminar III (1)

This course is a continuation of CWE Seminar II, with emphasis on managerial skills. The student is required to develop a marketing plan or business plan for a business organization of their choosing. Students will be expected to select a business, prepare the plan, present an oral presentation, and submit a final written document. Prerequisite: CWE 162; instructor approval. 1 lecture hr/wk. S

DENTAL ASSISTING (DA)**DA 102: Advanced Clinical Experiences (4)**

In Advanced Clinical Experiences, students will demonstrate competence in several dental procedures. Each skill listed on the DANB EFDA check-off list will be discussed in detail. The intention of this course is to prepare students to become Oregon Expanded Functions Exam certified, as well to provide them with the necessary knowledge to complete the Oregon Expanded Functions Clinical Check-offs. Ergonomics is also covered with a special emphasis on practicing good body mechanics while performing expanded functions. Dental sealants are also covered. Cavity Classifications are reviewed and discussed in relation to matrix systems. Prerequisite: currently enrolled in Dental Assisting program. Registration-Enforced Prerequisite: DA 195, DA 196, 3 lecture, 3 lab hours/work. S

DA 103: Dentistry, Law & Ethics (1)

This course introduces the dental assisting student to the dental office environment and the dental specialties. Identifies, describes and compares the role of each member of the dental team. Specific emphasis is placed on the students' exploration of the application of ethics in dentistry. The laws that cover dental professionals are covered broadly. Those laws that pertain specifically to dental assistants are covered in depth with particular attention to the Oregon Dental Practice Act. Prerequisite: currently enrolled in Dental Assisting program. 1 lecture/hr. F

DA 107: Dental Health Education I (1)

Dental Health Education I develops the basic concepts of preventive dentistry including the study of plaque-related diseases, fluoride therapy, and brushing and flossing techniques. The student will learn measures that are effective in improving oral health and preventing oral disease. Nutrition will be discussed and the students will apply the concepts they have learned to the health of patients they will treat in the future. Prerequisite: currently enrolled in Dental Assisting program. 1 lecture/hr. F

DA 108: Dental Health Education II (1)

Must be taken in sequence. This course builds on the concepts in DA 107, reinforcing preventative dentistry concepts. Students will research and prepare a presentation on an oral health topic. This presentation will be the concluding project of the class and students will be expected to utilize the skills and concepts they have learned in oral health education. Prerequisite: currently enrolled in Dental Assisting program and DA 107. 1 lecture/hr. F

DA 110: Health Sciences (3)

Dental Health Sciences introduces the student to the history of dentistry. Embryology, and developmental disorders in the oral cavity are discussed. The concepts of oral histology as well

as tooth morphology are developed. Students will be able to understand the connection between patient diagnosis, charting and treatment. Prerequisite: currently enrolled in Dental Assisting program. 3 lecture hr/week. F

DA 111: Dental Terminology (2)

This course provides students with a working knowledge of dental terminology. The course will include: spelling, pronunciation, and definition of terms as well as the use of a dental dictionary and related references. Students will be prepared for a career in the dental profession by providing them with the terminology to excel in both career orientated testing and while working as a Dental Assistant. Prerequisite: currently enrolled in Dental Assisting program. 2 lecture hr/week. W

DA 115: Dental Anatomy (3)

The Dental Anatomy course presents the study of landmarks, tooth numbers, surfaces and morphology. Students learn the basic structure and function of human anatomy with special emphasis on the head and neck. Study models and diagrams are used to facilitate hands on learning. This course prepares students to apply the fundamentals of general and dental anatomy to informed decision making, and to professional communication with colleagues and patients. Prerequisite: currently enrolled in Dental Assisting program. 3 lecture hr/week. W

DA 135: Oral Pathology (2)

The study of diseases and conditions affecting the gingiva, dentition, tongue and oral cavity is the focus of this course. Oral manifestations of infectious diseases and injuries are also covered as well as ongoing discussions pertaining to the legal and ethical roles dental assistants encounter while assisting dentists and hygienists when pathological conditions are presented. Prerequisite: currently enrolled in Dental Assisting program. 2 lecture hr/week. S

DA 139: Medical Emergencies in the Dental Office (2)

Students learn the signs and symptoms of medical emergencies that may occur in a dental office. The role each member of the dental team plays during a dental emergency is examined. Special emphasis is placed on the responsibilities of the dental assistant supporting the dentist and staff in the event of a medical emergency. Introduction to pharmaceutical agents used to treat dental clients and dental office emergencies. The principles and techniques of acquiring patient vital signs are explained and practiced. Treatment provisions for the medically compromised and other special needs patients are defined and explored. Prerequisite: currently enrolled in Dental Assisting program. 2 lecture hr/week. W

DA 192: Dental Materials I (3)

This course covers the composition, clinical properties, preparation, use and storage of materials used in dentistry. Students will produce negative impressions and pour positive models. The proper techniques for mixing and dispensing various impression materials, dental cements, liners, bases and restorative products are illustrated and applied. Prevention of cross contamination is established. Prerequisite: currently enrolled in Dental Assisting program. 2 lecture, 3 lab hrs/week. F

DA 195: Chairside Procedures I (4)

Chairside Procedures I introduces students to the science of dentistry. This course prepares students to control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. This course instructs students on proper moisture control techniques as well as an introduction to dental hand instruments, rotary instruments and hand pieces. The students are introduced to basic procedures including amalgam and composite. Dental unit waterlines and ergonomically safe practices are also covered. Prerequisite: currently enrolled in Dental Assisting program. 3 lecture, 3 lab hrs/week. F

DA 196: Chairside Procedures II (4)

Chairside Procedures II helps prepare the student for the unlimited diversity of clinical responsibilities in both general and specialized settings. Students will be provided with a level of knowledge that will enable them to operate as competent chairside assistants. Dental specialties will be discussed as well as the instrumentation and principle procedures specific to each discipline. Post-operative instructions for common procedures will be presented and practiced in both the didactic and clinical setting. Prerequisite: currently enrolled in Dental Assisting program and DA 195. 3 lecture, 3 lab hrs/week. W

DA 198: Dental Materials II (2)

In this course students will apply the principle and secondary uses, advantages, disadvantages and limitations of various dental materials. Students will refine their impression taking and model pouring skills as well as fabricate custom trays. Preparation of articulation, occlusal bite, and presentation of models as a diagnostic tool will be completed by the students. Materials and procedures specific to: Orthodontics, Endodontics, Prosthodontics, and Aesthetic specialties are covered. Prerequisite: currently enrolled in Dental Assisting program and DA 192 and DA 196. 1 lecture, 3 lab hrs/week. W

DA 199: Dental Office Procedures (3)

The business office in today's modern dental practice functions as a highly technological facility with skilled personnel. This course enables students to acquire the abilities to succeed in today's contemporary dental practice. Telephone management, appointment scheduling and recall procedures are covered. The financial aspects of running a business are explored and applied. Students will experience a hands-on computer application to help them synthesize the basics of dental front office management including all aspects of insurance forms and billing. Marketing, communication and resume skills are presented and refined. Prerequisite: currently enrolled in Dental Assisting program. 3 lecture hrs/week. S.

DA 210: Dental Radiology I (4)

This course provides instruction in terminology and the basic physics of X-ray production. Radiological health measures for both patient and operator are studied. Examination and operation of the dental X-ray unit is taught. Darkroom basics and film mounting are covered as well as film grading and criteria. Students are instructed in bitewing, paralleling, and bisecting the angle radiographic techniques. Instruction is provided in anatomy and landmarks as well as common exposure errors. Infection control in regards

to exposing and developing dental radiographs is discussed. Prerequisite: currently enrolled in Dental Assisting program. 3 lecture, 3 lab hrs/week. F

DA 211: Dental Radiology II (3)

This course provides the basis for various occlusal film projections, intra-oral periapicals and panoramic radiographs. Dental X-ray film composition and processing is discussed as well as clinical grading review. The needs of patients with special circumstances are addressed as well as legal and ethical issues pertaining to dental radiography. The history of radiology is presented as well as a discussion on digital radiography. Throughout the course emphasis is placed on preparing students for the DANB RHS (Dental Assisting National Board Radiation Health and Safety) written and clinical exams. 2 lecture, 3 lab hrs/week. W

DA 280: Cooperative Work Experience: Dental Assisting

This course provides the student with Dental Assisting work experience in community businesses. The student will have the opportunity to integrate theory and practice gained in the classroom with practical experience in the professional world. In this course a student may develop skills, explore career options and network with professionals and employers while earning credit toward a certificate. Prerequisite: Currently enrolled in the Dental Assisting program; instructor approval. 10 credits CWE, W (1 cr), S (9 cr)

DRAFTING (DRF)

DRF 112: Computer Aided Drafting I (3)

This is a beginning level course, which introduces computer aided drafting (CAD). The AutoCad 2011 software is used to set up drawings and perform basic drawing and editing commands. Emphasis is on two-dimensional drawings and engineering architectural aspects of computer drafting. This is an online enhanced course, meaning students are required to use online resources to pass this course. 2 lecture, 2 lecture/lab hrs/wk. F

DRF 113: Computer Aided Drafting II (3)

Advanced two-dimensional, computer-aided drafting (CAD) commands and skills, integrated with engineering graphics. Orthographic and multi-view drawings are created using AutoCAD software. Emphasizes plotting final drawings to scale and following drafting standards, including standards for dimensioning, text, line weights, and title blocks. Registration-Enforced Prerequisites: CIV 112 or DRF 112, with a grade of C or better. 2 lecture, 2 lecture/lab hrs/wk. W

DRF 116: Computer Aided Drafting – Structural Drafting (3)

This is an advanced level drafting course which introduces structural drafting processes for the computer aided drafter. AutoCad software is used to set up drawings and create basic structural drawings. Emphasis is on two-dimensional drawings and structural engineering computer drafting. Registration-Enforced Prerequisites: CIV 113 or DRF 113, with a grade of C or better. 2 lecture, 2 lecture/lab hrs/wk. S

DRF 280: Cooperative Work Experience: Drafting (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the

opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year, except for students taking Occupational Skills Training (OST) which has a limit of 24 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

ECONOMICS (ECON)

ECON 115: Introduction to Economics (3)

Introduction to Economics is a course that focuses on the definition of economics and the application of economic analysis. This analysis will be conducted within the students own life, within business applications, product and labor markets, national monetary and fiscal policy, and international trade. Current issues will be used whenever possible to illustrate fundamental concepts. Reference and use of current internet and other research sites will be utilized to provide the students with an option for lifelong research into economics. 3 lecture hrs/wk. W

ECON 201: Microeconomics (4)

A more advanced study into the social science of economics. These courses are designed for students seeking a transfer degree. The courses are taught in sequence and require students to be comfortable with general writing, general math concepts, basic graphing, and have access to a computer with internet capability. The courses require students to be comfortable with general writing, general math concepts, basic graphing, and have access to a computer with internet capability. Recommended but not required Prerequisites: ECON 115, WR 121, WR 122, and MTH 111 or any equivalent courses.

ECON 201 provides an overview of microeconomic concepts and analysis, supply and demand analysis, theories of the firm and individual behavior, competition and monopoly, and government policy influences on economics. Students will be introduced to the use of microeconomic applications including the use of economic graphs to address problems in current economic policy. 4 lecture hrs/wk. F, S

ECON 202: Macroeconomics (4)

ECON 202 provides an overview of macroeconomic issues: the determination of output, employment, unemployment, interest rates, and inflation. Monetary and fiscal policies are discussed, important policy debates such as, the sub-prime crisis, social security, the public debt, and international economic issues are critically explored. The course introduces basic models or macroeconomics and illustrates principles with the experience in the U.S. economic system along with contrast and comparison to various international models. Discussion and demonstration of increase in individual skills with an emphasis on advanced progression, participation and advanced skill development. Registration-Enforced Prerequisite: ECON 201. 4 lecture hrs/wk. W

ECON 280: Cooperative Work Experience: Economics (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year.

Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S

EARLY CHILDHOOD EDUCATION (ECE)

ECE 101: Early Childhood Education Seminar & Practicum I (4)

Discussion centered on ECE lab activities, behavior management and problem-solving techniques. Practical work experience will provide the student with a variety of experience working with children in early childhood programs under the close supervision of the instructional staff. Students work with children individually and in small groups and supervising children in outdoor activities. Prerequisites: Oregon Childcare Registry enrollment required. Instructor approval required to ensure students have completed the background history check, MMR vaccination verification and a food handler's certificate before coursework can begin. NOTE: Students registered on the Oregon Registry Step 7 may begin from ED 103 through to their desired level of Practicum. 2 lecture, 6 practicum hrs/wk. F, W, S

ECE 102: Early Childhood Education Seminar & Practicum II (4)

Classroom time with ECE seminar instructor concerning practicum experiences — guidance of young children. Students will gain experience working with young children in an organized group setting, and will assist with supervision of the various daily activities in an ECE program. Prerequisites: ED 101, Oregon Childcare Registry enrollment, including background check, food handler card and MMR vaccine. NOTE: Students registered on the Oregon Registry Step 7 may begin from ECE 103 through to their desired level of Practicum. 2 lecture, 6 practicum hrs/wk. F, W, S

ECE 103: Early Childhood Education Seminar & Practicum III (4)

Classroom time with ECE seminar instructor concerning practicum experiences — guidance of young children. Practical experience working with young children in the ECE lab. Activities and projects carried out will be student planned and implemented — more responsibility for student. Prerequisite: ED 102, Oregon Childcare Registry enrollment, including background check, Infant/Child First Aid and CPR and Food Handlers Certificate. 2 lecture, 6 practicum hrs/wk. F, W, S

ECE 104: Early Childhood Education Seminar & Practicum IV (4)

Classroom time with ECE seminar instructor concerning practicum experiences - guidance of young children. Practical experience working with young children in the ECE lab. Activities and projects carried out will be student planned and implemented — more responsibility for student. Prerequisite: ED 102, Oregon Childcare Registry enrollment, including background check, Infant/Child First Aid and CPR and Food Handlers Certificate. 2 lecture, 6 practicum hrs/wk. F, W, S

ECE 105: Early Childhood Education Seminar & Practicum V (4)

Discuss one's own teaching style and the relationship of a teacher to children and parents. Practical experiences working with children. Explore interpersonal skills in order to function as a team member in planning and carrying out a comprehensive program for children. Prerequisite: ED 104, Oregon Childcare Registry enrollment, including background check, Infant/Child First Aid and CPR and Food Handlers Certificate. 2 lecture, 6 practicum hrs/wk. F, W, S

ECE 106: Early Childhood Education Seminar & Practicum VI (4)

Review state and local regulations and agencies that deal with young children. Plan to implement programs that provide positive learning experiences for the individual child and groups. Assist with administrative and supervisory tasks. Prerequisite: ED 105, Oregon Childcare Registry enrollment, including background check, Infant/Child First Aid and CPR and Food Handlers Certificate. 2 lecture, 6 practicum hrs/wk. F, W, S

ECE 140: Introduction to Early Childhood Education (2)

Focus on the historical and philosophical development of the field, programs, and major approaches to early childhood education and current trends in the field. Emphasis will be focused on early childhood education as a career. Students will become aware of professional organizations concerned with young children. 2 lecture hrs/wk. F

ECE 150: Creative Activities for Children (3)

Introduces creative activities suitable for preschool children in fields of art, music, dramatics, rhythms, games, finger plays, carpentry and water play. Development of the student's creative imagination will be stressed. Oregon Childcare Registry enrollment required, including a background check. 3 lecture hrs/wk. S

ECE 154: Literature and Language for Children (3)

This course provides an overview of literature and language development in young children. Quality children's literature, a rationale for the purpose of such literature, ways to implement its use, and ways to evaluate its appropriateness for young children are addressed. Lectures and demonstrations, reading and evaluations of children's books, and practical experiences with children and literature are included. Registration-Enforced Prerequisite: WR 121. 3 lecture hrs/wk. W

ECE 178: Observing and Guiding Behavior (3)

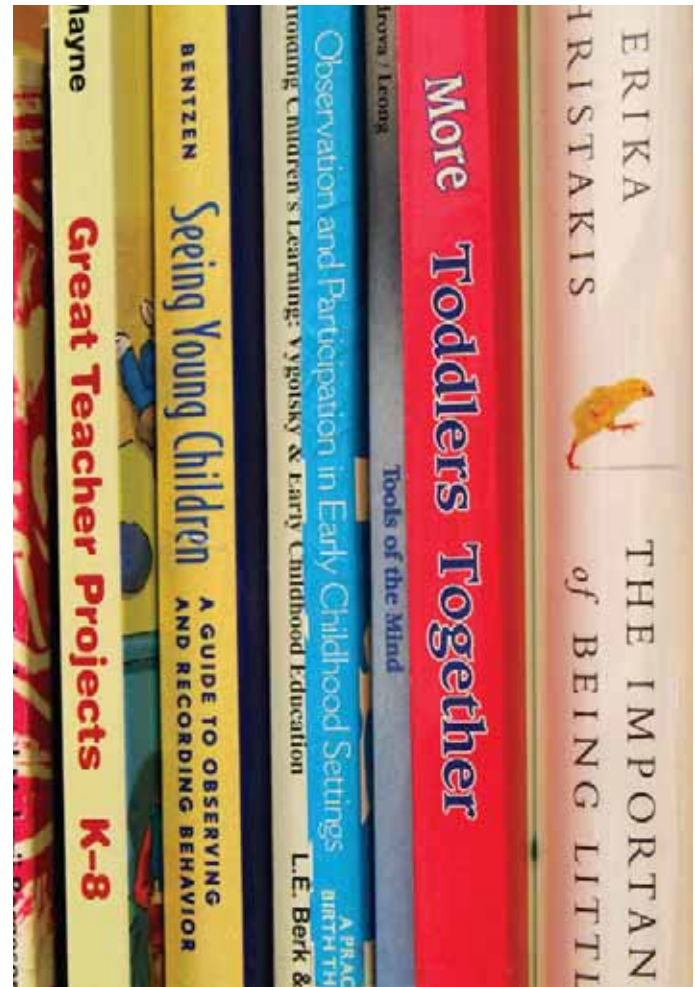
Students will identify the guidance needs of young children and learn techniques and strategies to meet these needs. Exercises are designed to develop observation, recording and guidance skills. Students will be observing an early childhood education center. Oregon Childcare Registry enrollment required, including background check and verification of MMR vaccination. 3 lecture hrs/wk. S

ECE 240: Lesson & Curriculum Planning (3)

Development of fundamental goals for facilitating growth and development of children in early childhood learning and care programs; planning daily and weekly program activities; emphasis on stimulating learning through a variety of materials and methods; building relations between home and early childhood learning and care programs. 3 lecture hrs/wk. W

ECE 244: Individual Learning for Preschoolers (3)

Introduces students to methods of developing individualized learning materials in settings for preschool children. Designed specifically for people working with Early Childhood Education programs. Oregon Childcare Registry enrollment required, including background check and verification of MMR vaccination. 3 lecture hrs/wk. S



ECE 247: Administration of Child Care Centers (3)

Administration of Child Care Centers (3) Overall view of administration and operation of child care centers: Site location and development, regulatory agencies and license requirements, policy formation and development, planning space and equipment, staff selection and management, boards and advisory committees, funding sources and legal responsibilities. 3 lecture hrs/wk. W, alternate years.

EDUCATION (ED)

ED 100: Introduction to Education (3)

An introductory course in the field of education. Students will be introduced to essential understandings of current practices in K-12 schools today. The class is an opportunity for students considering a career in education to reflect on key issues and gain practical experience in classrooms. Instructor approval required to ensure students have completed the background history check, and MMR vaccination verification before coursework can begin. 1 lecture hr/wk. 6 practicum hrs/wk. F, S

ED 200: Foundation of Education (3)

This course will examine historical, philosophical, political, legal, and economic aspects of K-12 public education. Current issues

and trends will also be explored. 3 lecture hrs/ wk. W

ED 229: Learning & Development (3)

This class introduces the participant to theories of behavior, motivation and human development as applied to classroom practice and teaching/tutoring techniques. It also examines ways to personalize learning for a diverse student population. 3 lecture hrs/wk. Su

ED 235: Educational Technology (3)

This course trains students in the preparation and use of media and technology in school settings. Students will develop an understanding of the role of media in learning and methods for incorporating media in instruction. Prerequisite: CIS 120 or Instructor approval. 3 lecture hrs/wk. F for incorporating media in instruction. Prerequisite: CIS 120 or Instructor approval. 3 lecture hrs/wk. F

ED 258: Multicultural Education (3)

Introduces the philosophy, activities, and materials applied in developing a culturally-sensitive multicultural classroom and curriculum. 3 lecture hrs/wk. S

ED 280: Cooperative Work Experience: Education or Practicum (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S

EMERGENCY MEDICAL SERVICES (EMS)

EMS 151: EMT Part 1 (5)

Term one of a two-term series. Designed to train personnel to respond to emergency situations to render proper treatment in case of sudden emergencies, accidents or disasters. Course focuses on the recognition and treatment of shock, fractures, poisonings, burns, stroke and heart attack. Prerequisite: Completion of placement testing for reading at RD 90 or higher, writing skills at WR 115 or higher, and math at MTH 20 or higher. Must have a high school diploma, GED, or equivalent by the time of application for certification. Must meet standards as set by the Oregon State EMS Office for certification which includes health, driving, immunizations, and background check. Meets or exceeds intent of National Registry. 4 lecture, 2 lecture/lab hrs/wk. F, S

EMS 152: EMT Part 2 (5)

Term two of a two-term series. EMT is designed to train personnel to respond to emergency situations to render proper treatment in case of sudden emergencies, accidents, or disasters. This course continues to focus on the recognition and treatment of shock, various medical emergencies, fractures, poisonings, burns, stroke, and heart attack. W, Su

EMS 170: Emergency Communication (2)

This course covers communication systems and design, radio and computer technology, mapping systems, codes, 911 systems,

dispatch centers, and correct radio transmission techniques. 20 lecture hrs (1 wk). S

EMS 171: Emergency Transport (2)

Ambulance operations, laws, maintenance, safety, emergency response driving and route planning. 20 lecture hrs (1 wk). S

EMS 180: Crisis Intervention (3)

Intervention in behavioral crises of: sudden death, suicide, rape, murder, vehicle accidents, disease, trauma, and child abuse. Resources, supporting behavioral patterns, and handling emotional stress of the individual. Coping with emotional conflict within oneself. Prerequisite: EMS 151. 3 lecture hrs/wk. W

EMS 251: Paramedic Part 1 (10)

Term one of a four-term series, plus specialty courses, in Paramedic education. The course begins with foundational competencies in medical terminology, patient assessment, airway and ventilation, pathophysiology of shock, intravenous access and limited pharmacology. Delivery of currently accepted protocols and procedures is applied to patients presenting the signs and symptoms consistent with emergencies in the above categories. Prerequisite: BI 231, BI 232, BI 233, WR 121, MTH 095, EMS 151, EMS 152, EMS 170, EMS 175, EMS 180, and MED 111 with a grade of C or better. Oregon Basic EMT or EMT Intermediate certification, current immunizations. 8 lecture, 4 lecture/lab hrs/wk. Program Coordinator Approval Required for Admission. F

EMS 252: Paramedic Part 2 (8)

Term two of a four-term series, plus specialty courses, in Paramedic education. This course will cover obstetrics, gynecology, cardiology, endocrine, abdomen, genitourinary, and environmental problems, anaphylaxis, toxicology, drug and alcohol abuse and infectious diseases. Corequisite: EMS 261. Registration-Enforced Prerequisite: EMS 251. 6 lecture, 4 lecture/lab hrs/wk. W

EMS 253: Paramedic Part 3 (8)

Term three of a four-term series, plus speciality courses, in Paramedic education. This course will cover traumatic injuries, recognition and treatment of patients in shock, incident management, mass casualty incidents, transport operations, terrorism, and disaster response. Corequisite: EMS 262. Registration-Enforced Prerequisite: EMS 252. 6 lecture, 4, lecture/lab hrs/wk. S

EMS 254: Paramedic Part 4 (6)

EMS 254 is the final course of the paramedic sequence. This course reviews the objectives covered in EMS 251, EMS 252, & EMS 253. The course will review cardiovascular emergencies, respiratory emergencies, traumatic emergencies, and general medical emergencies. The course will also review special patient populations and operations. This course will also review all psychomotor skill stations. This course is designed to prepare the student for NREMT written and practical certifying examinations. A comprehensive final written and practical exam is included. Corequisite: EMS 263. Registration-Enforced Prerequisite: Completion of EMS 253. 4 lecture, 4 lecture/lab hrs/wk. Su

EMS 261: Paramedic Clinical & Field Experience Part I (2)

Begin in-hospital clinical experience including direct patient care responsibilities necessary for completion of the educational goals and objectives. Patients are in a hospital/clinical setting with disease and injury conditions comparable to those the student will experience in the pre-hospital care situations. Begins field experience designed to expose student to disease and injury conditions. This segment begins the required 250 hours of clinical experience and number of pre-hospital calls necessary to fulfill the State curriculum. Corequisite: EMS 252. Prerequisite: Completion of EMS 251. 6 practicum hrs/wk. W

EMS 262: Paramedic Clinical & Field Experience Part 2 (2)

Continue in-hospital clinical experience including direct patient care responsibilities necessary for completion of the educational goals and objectives. Patients are in a hospital/clinical setting with disease and injury conditions comparable to those the student will experience in the pre-hospital care situations. Continue field experience designed to expose student to disease and injury conditions. Corequisite: EMS 253. Prerequisite: Completion of EMS 252 & EMS 261. 6 practicum hrs/wk. S

EMS 263: Paramedic Field Internship (4)

Field internship is the final phase of the student's paramedic education. The student will work on an emergency ambulance as a third team member where they will be evaluated by a Paramedic preceptor. The student will apply the didactic knowledge, psychomotor skills, and clinical instruction in delivering advanced patient care in the field setting. Corequisite: EMS 254. Prerequisite: Completion of EMS 253 & EMS 262. 12 practicum hrs/wk. Su

EMS 298: Independent Study: EMS (1-3)

Independent study on subjects outside the course curriculum or in-depth studies of a particular aspect of course content. Affords an opportunity for students with previous study in a subject area to pursue further investigations for credit. Registration-Enforced Prerequisite: Instructor and department chair approval of study plan. 6 credits maximum total credit.

ENGLISH (ENG)

ENG 104,105,106: Intro to Literature (4,4,4)

Through active reading, critical thinking, engaged discussion and effective writing, students will learn to interpret, analyze, critically evaluate and appreciate a variety of literature. The changing historical, political and cultural contexts in which the works were produced will be examined, as will the remarkable diversity of writers and subject matter, including issues of race, ethnicity, class, gender and sexual orientation. The courses also introduce students to literary theory, including technical terms and their application.

ENG 104 introduces students to the conventions and characteristics of literary fiction. Offered annually in fall term.

ENG 105 introduces students to the conventions and characteristics of dramatic literature. Offered annually in spring term.

ENG 106 introduces to the conventions and characteristics of poetry. Offered annually in winter term

Recommended Prerequisites: WR095 with a grade of C or better, or

appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week

ENG 107,108,109: World Literature (4,4,4)

The World Literature sequence introduces students to literature in translation from around the world. The course emphasizes active reading, critical thinking, engaged discussion, and effective writing. Topics include characteristics of major literary genres, including epic, lyric poetry, and drama; the historical and philosophical contexts in which particular works were produced; and the influence of literature on culture. Courses may be taken out of sequence.

ENG 107 focuses on literature of the Western world, from Ancient Egyptian, Babylonian, and Hebraic works through Classical works of the Greeks and Romans, to works of the early Christian European medieval period. Offered in alternating fall terms (2020, 2022, 2024).

ENG 108 focuses on literature of the Western world, from the late Middle Ages through the Renaissance, Neoclassical, Romantic, and Modern periods. Offered in alternating winter terms (2021, 2023).

ENG 109 focuses on non-Western literature, including classic and contemporary works from Asian, African, Indian, and Muslim cultures. Offered in alternating spring terms (2021, 2023).

Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week

ENG 201, 202: Shakespeare (4,4)

The Shakespeare sequence (ENG 201 and 202) provides an introduction to Shakespeare's dramatic work and poetry. It proceeds chronologically: ENG 201 focuses on selected comedies, tragedies, histories, and poems from Shakespeare's early to middle career; ENG 202 focuses on selected comedies, tragedies, romances, and poems from Shakespeare's middle to late career. Students will learn to interpret Shakespeare's work using a variety of critical strategies, including literary, historical, sociological, psychological, and philosophical approaches. Courses may be taken out of sequence. Available to both first-year and sophomore students. Recommended Prerequisites: WR 095 with a grade of C or better or appropriate placement test scores; AND RD 090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/wk. ENG 201- F, Su; ENG 202 - F, S ENG201—offered in alternating fall terms (2021, 2023); ENG202—offered in alternating spring terms (2020, 2022, 2024).

ENG 204, 205, 206: Survey of English Literature (4,4,4)

This is a survey of literature, both oral and written, produced in the British Isles and then later among Native English-speaking colonists elsewhere around the globe, excluding America, from the time of the oral production of narratives to the present day. The course examines a broad range of drama, poetry and prose narratives down through the timeline as a means of impetus for interpretive analysis of the literature within its historical and cultural contexts. Particular emphasis is placed on the interaction between literature and the formation of philosophical and cultural movements.

ENG 204 examines the principal works of Old English and Middle English authors, as well as a formative introduction to

Renaissance authors, focusing largely on Shakespeare. Offered in alternating fall terms (2020, 2022, 2024).

ENG 205 begins with Shakespeare and other notable authors of the period, such as Kidd and Marlowe, and extends through the Enlightenment, Romantic and Victorian periods. Offered in alternating winter terms (2021, 2023).

ENG 206 begins with the close of the Victorian Age, and continues to the present day, examining not only those texts produced within the confines of the British Isles, but extending also to those texts created within the colonies of the larger Empire. Offered in alternating spring terms (2021, 2023).

Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week

ENG 230: Environmental Literature (4)

This course aims to explore the ways in which ideas about This course aims to explore the ways in which ideas about the physical or “natural” environment have been shaped in American literature. The course will survey a variety of important texts in this tradition and introduce students to different eras and genres, including a focus on early environmental thinkers, policy documents, progressive and radical writers, as well as gendered discourse. Students will employ critical writing, critical thinking, and critical reading skills. Although this is a literature course, we will keep issues from environmental ethics and environmental history close at hand, and students will be invited to devote one paper linking environmental questions to an area of their own interest. Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week. Offered in alternating winter terms (2020, 2022, 2024)

ENG 250: Introduction to Mythology (4)

This is a survey of global myth and sacred texts, with emphasis on, but not limited to, those myths emerging within the confines of early Western civilizations. The course emphasizes an understanding of both the impetus for and development of sacred stories in a particular cultural context, and also the resulting influence of myth on the social, political, psychological and philosophical development of a particular people. The course examines the dominant themes of global myth in a comparative context. The course also examines the transition of stories emerging in oral tradition to those that become later literary texts. The course emphasizes both a scholarly and multi-cultural examination of global myth. Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week. Offered in most summer terms

ENG 253, 254, 255: Survey of American Literature (4,4,4)

This series of courses is a survey of American literature spanning pre-Columbian America to present day with emphasis on literary and cultural values. The courses are designed to introduce students to a variety of different writers and to help students develop a sense of how literature and culture has evolved from the pre-colonial period through the early 21st Century. In doing so, we will also explore the different forms popular in these periods, from

sermons and autobiographies to short stories, poems, and plays. While students will be introduced to stylistic aspects of the texts, such as diction, imagery, meter, irony, dialogue, and metaphor, the course will focus on the relation between the literature and the historical and social context in which each work was written. The classes will cover a range of subjects, including representations of gender, class, and race in American literature, using a variety of critical and analytical approaches. Courses need not be taken in sequence.

ENG 253 examines American literature from pre-Columbian American through colonial literature, ending with literature from the early to mid 1800s. Offered in alternating fall terms (2021, 2023)

ENG 254 examines American literature from the post-Civil War Reconstruction era to the mid-20th Century. Offered in alternating winter terms (2020, 2022, 2024)

ENG 255 examines American literature from the Modern period through present day. Offered in alternating spring terms (2020, 2022, 2024)

Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week

ENG 260: Intro to Women’s Literature (4)

This course introduces students to a wide range of works—poetry, short fiction, a novel, and essays—by women writers in English traditions from the nineteenth and twentieth centuries. While learning to appreciate the aesthetic qualities of diverse literary works, the class will focus on ways these works illuminate a variety of issues pertinent to women, including the ways in which women are impacted by the patriarchal, often misogynistic, views of the dominant culture of their time. Students will be introduced to feminist theory and literary criticism to help illuminate the role of gender and sexism in shaping identity and experience. We will also consider the ways that other markers of identity—such as class, race, ethnicity, and sexual orientation—intersect with gender, resulting in different forms and degrees of inequality and discrimination. Active reading, critical thinking, engaged discussion, and effective writing and speaking are emphasized. Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week

ENG 288: Cultural Diversity in Contemporary American Literature (4)

A study of cultural diversity as demonstrated and recorded in American literature from 1965 to present day. This course emphasizes literary and cultural values through the study of the poetry and fiction of contemporary writers. The course will focus on those writers who offer first-hand views of life within traditionally marginalized cultural groups including women, LGBTQIA+, African Americans, Latinx Americans, Asian Americans, and Native Americans/indigenous peoples. Critical and analytical approaches will be stressed. Recommended Prerequisites: WR095 with a grade of C or better, or appropriate placement test scores; AND RD090 with a grade of C or better or appropriate placement test scores. 4 lecture hrs/week. Su

ENGINEERING (ENGR)

ENGR 111: Engineering Orientation I (3)

Engineering as a profession, historical development, ethics, curricula and engineering careers. Introduction to problem analysis and solution, data collection, accuracy and variability. Registration-Enforced Prerequisite: MTH 065. 3 lecture hrs/wk. F

ENGR 112A: Problem Solving and Technology (2)

ENGR 112A is part of one of a two course (ENGR 112B). Systematic approach to engineering problem-solving using computers, spreadsheets, logical analysis, flow charting, input/output design and introductory computer programming. ENGR 112A: Windows, Microsoft Office, Spreadsheets. Registration-Enforced Prerequisite: ENGR 111 1 Lecture, 2 Lecture/Lab hrs/wk. W

ENGR 112B: Problem Solving and Technology (1)

ENGR 112B is the second of two courses (ENGR 112A). Systematic approach to engineering problem-solving using computers, spreadsheets, logical analysis, flow charting, input/output design and introductory computer programming. ENGR 112B: Structured programming MatLab. Registration-Enforced Prerequisite: ENGR 111, ENGR 112A. 2 Lecture/Lab hrs/wk. S

ENGR 201: Electrical Fundamentals I (4)

Introduces students to basic circuit elements and circuit analysis techniques. Covers Ohm's and Kirchhoff's Laws, network theorems, node voltage analysis and mesh current analysis. Operational amplifiers, inductors, capacitors, RC and RL transient response are also covered. Circuit simulation, math analysis software, and laboratory experiments are incorporated to solidify classroom theory and practice. Corequisite: MTH 251. 3 lecture, 3 lab hrs/wk. F

ENGR 202: Electrical Fundamentals II (4)

Covers RLC circuits, transformers, AC power, and three-phase power. Explores steady state sinusoidal analysis and phasor techniques. Introduces the Laplace Transform. Also incorporated is circuit simulation, math analysis software, and laboratory experiments to solidify classroom theory and practice. Corequisite: MTH 252. 3 lecture, 3 lab hrs/wk. W

ENGR 203: Electrical Fundamentals – Signals and Controls (4)

Covers transient circuit analysis-RL, RC, RLC. Introduces LaPlace Transform and its use in circuit analysis, the transfer function, Bode diagram and two port networks. Registration-Enforced Prerequisites: ENGR 202. 3 lecture, 2 lecture/lab hrs/wk. S

ENGR 211: Statics (4)

Analysis of forces induced in structures and machines by various types of loading. Corequisite: MTH 251. 4 lecture hrs/wk. F

ENGR 212: Dynamics (4)

Kinematics, Newton's laws of motion, and work-energy and impulse-momentum relationships applied to engineering systems. Prerequisite: ENGR 211, MTH 251. 4 lecture hrs/wk. W

ENGR 213: Strength of Materials (4)

Properties of structural materials; analysis of stress and deformation in axially loaded members, circular shafts, and beams and in statically indeterminate systems containing these components. Prerequisite: ENGR 211. 4 lecture hrs/wk. S

ENGR 245: Engineering Graphics (3)

This course is an introduction to technical graphics as used for the communication of concepts in design and manufacturing, with practical applications using solid modeling software to capture design intent and to generate engineering drawings. SolidWorks is the computer software used for the course. Registration-Enforced Prerequisites: CIV 112 or DRF 112, with a grade of C or better. 2 lecture, 2 lecture/lab hrs/wk. S

ENGR 271: Digital Logic Design (3)

Provides an introduction to digital logic and state machine design. Covers logic design, including logic gates, gate minimization methods and design with standard medium scale integration (MSI) logic circuits. Includes basic memory elements (flip-flops) and their use in simple-state machines. Registration-Enforced Prerequisites: ENGR 201. 3 lecture hrs/wk. S

ENGR 272: Digital Logic Design Lab (1)

A lab to accompany ENGR 271 Digital Logic Design. Illustrates the topics covered in ENGR 271 using computer-aided design, verification tools and photocopying hardware. Registration-Enforced. Prerequisite: ENGR 201. 2 lecture/lab hrs/wk. S

EMERGENCY SERVICES (ES)

ES 101: Principles of Emergency Services (3)

This course provides an overview to fire protection and emergency services. This course compares the function of public and private EMS and fire protection services. This course introduces the student to local government laws and regulation affecting the fire service, fire service nomenclature and specific fire protection functions. This course will also introduce the students to basic fire chemistry and physics, firefighting strategy and tactics life safety initiatives, and fire protection systems. 3 lecture hrs/wk. F, S

ES 103: Occupational Safety and Health for Emergency Services (2)

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk and hazard evaluation and control procedures for emergency services operations. 2 lecture hrs/wk. W

ES 107: Legal Aspects of Emergency Services (2)

This course addresses federal, state and local laws that regulate emergency services and includes a review of national standards and consensus standards. 2 lecture hrs/wk. S

ES 109: Principles of Fire and Emergency Service Administration (FESA) (3)

This course introduces the student to the organization management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer. 3 lecture hrs/wk. S

ES 113: Emergency Medical Services Rescue (3)

Covers the elementary procedures of rescue practices, systems, components, support and control or rescue operations including basic rescue tools. Introduces techniques and tools of patient extraction emphasizing application to traffic accidents and low angle rescue. 3 lecture/lab hrs/wk. Su

FILM ARTS (FA)**FA 256: American Film History (4)**

American Film History is an introductory course designed to bring American film into clear focus as an art form, a business, and a cultural phenomenon. The course explores how feature films work technically, artistically, and culturally. The course will probe the deeper meaning of American movies — the hidden messages of genres, the social and psychological effects of Hollywood film style, and mutual influence of society and popular culture. 4 lecture hrs/wk. F

FOOD & NUTRITION (FN)**FN 225: Human Nutrition (4)**

A study of the biochemical nature of food nutrients; the physiological means of digestion, absorption, and transport; and the metabolic pathways involved in their disposition by the body. Includes fundamental chemical and biological concepts relevant to nutrition, diet-assessment procedures, and the relationship between diet and health, body composition, and physical fitness/athletic performance. Basic biology and chemistry preferred. 4 lecture hrs/wk. F, W, S

FORESTRY ENGINEERING (FOR)**FOR 111: Introduction to Forestry (3)**

Forest resources in the world; forests and human well-being; where and how forests grow; environmental and human values; products, characteristics, and uses; basic elements of use, planning and management. Interpretation of forestry literature; professional origins in the U.S. Field trips required off campus. 2 lecture, 3 lab hrs/wk.

FOR 112: Problem Solving and Technology (3)

An overview of computing applications used in all aspects of forestry work, but largely focused on development of intermediate and advanced spreadsheet skills using Microsoft Excel (e.g., complex formulas and functions, charting, and pivot tables). Additionally, the course rounds out essential skills in document formatting and presentation development. Registration-Enforced Prerequisite: ENGR 111 or FOR 111 or NR 201. 3 lecture hrs/wk. W

FOR 161: Surveying I (4)

Course includes the fundamental concepts of plane surveying including the theory of measurements; systematic and random errors; distance and angle measurement using total stations and differential leveling. Course also includes calculation of bearings, azimuths, coordinates, area, and traverse adjustments with an introduction to horizontal and vertical curve computations. Registration-Enforced Corequisite: MTH 112, with grade of C or better or instructor approval. 2 lecture, 4 lecture/lab hrs/wk. S

FOR 201 - Introduction to Natural Resources (3)

Introductory course for Natural Resources majors. Overview of the underlying principles and complexities involved in managing natural resources of the Pacific Northwest. Investigation of major natural resource issues of the region. Development of critical

thinking and collaboration skills useful in seeking solutions. This course is cross listed as both FOR 201 and NR 201. 3 lecture hrs/wk.

FOR 206: Soil Science Lab (1)

Laboratory exercises and field trips designed to develop student competency in soil processes, description, analysis, and assessment with a particular emphasis on the role of soils in managed and unmanaged forest ecosystems. Registration-Enforced Prerequisite/ Corequisite: SOIL 205. 3 lab hrs/wk. S

FOR 234: GIS I Introduction to Geographic Information Systems (4)

An introduction to the appropriate use and potential applications of geographic information systems (GIS) and related technologies (GPS and remote sensing) in forest management, operational planning, and problem solving. Students are presented with lectures and exercises that cover a wide range of GIS and GIS-related topics and issues including spatial database creation, structure, analysis, and modeling. 3 lecture, 2 lecture/lab hrs/wk. W

FOR 240 - Forest Biology (4)

Structure, function, development, and biology of forest vegetation and their relationships to forestry and natural resource applications. Field trips off campus required. Prerequisite: completed course in Biology or Natural Resources or instructor approval. This course is cross listed as both FOR 240 and NR 240. 3 lecture, 3 lab hrs/wk. F

FOR 241 - Dendrology (4)

Identification of the principal forest trees of North America, emphasizing trees, and shrubs of the Pacific Northwest. Other topics include the ranges over which these species grow, their structure and function, important ecological characteristics, and principal uses. We will also survey forested biomes of the world. Field trips required off campus. This course is cross listed as both NR 241 and FOR 241. Prerequisite: previous course in Biology or Natural Resources or Instructor's consent. This course is cross listed as both FOR 241 and NR 241. 3 lecture hrs/wk. S

FOR 261 - Recreation Resource Management (4)

Recreation Resource Management (4) Overview of recreation resource management including study of land and water resources used for outdoor recreation. The planning and management of natural and cultural resources for long-term resource productivity, with a focus on rural and wildlife areas of the forest, range and coast. This course is cross listed as both FOR 261 and NR 261. 4 lecture hrs/wk. S, W

FOR 280: Cooperative Work Experience: Forestry (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year, except for students taking Occupational Skills Training (OST) which has a limit of 24 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

FRENCH (FR)

FR 101: First-Year French (4)

Through active classroom participation the student will develop the basic skills of speaking, listening, reading and writing in French. The course emphasizes the learning of French within a culturally-authentic context, while introducing the student to the diversity of the French-speaking world. Registration-Enforced Prerequisite: WR 115 with a grade of C or better. 4 lecture hrs/wk. F (Not offered 2020-2021)

FR 102: First-Year French (4)

Students will further develop the basic skills of speaking, listening, reading and writing. The course emphasizes oral communication and listening comprehension within a culturally-authentic context. Students will deepen their awareness of the French-speaking world. Registration-Enforced Prerequisite: WR 115 and FR 101 with a grade of C or better. 4 lecture hrs/wk. W (Not offered 2020-2021)

FR 103: First-Year French (4)

Students will practice active communication while strengthening speaking, reading, writing, and listening skills within a culturally-authentic context. Through the study of literature and other media, students will deepen their awareness of the French-speaking world. Registration-Enforced Prerequisite: WR 115 and FR 102 with a grade of C or better. 4 lecture hrs/wk. S (Not offered 2020-2021)

FR 201: Second-Year French (4)

This course promotes intensive development of oral and written French language skills. Students will review and expand on first-year structural patterns and vocabulary by integrating listening, speaking, reading, and writing skills. In-depth exploration of cultures is offered through the use of authentic materials from the French-speaking world. Conducted in French. Registration-Enforced Prerequisite: FR 103 with a grade of C or better or equivalent. 4 lecture hrs/wk. F (Not offered 2020-2021)

FR 202: Second-Year French (4)

This course continues an in-depth development of oral and written French language skills with further emphasis on vocabulary and complex grammatical concepts. In-depth exploration of cultures is offered through the use of authentic materials from the French-speaking world. Conducted in French. Registration-Enforced Prerequisite: FR 201 with a grade of C or better or equivalent. 4 lecture hrs/wk. W (Not offered 2020-2021)

FR 203: Second-Year French (4)

This course promotes continued development of French language skills through in-depth oral activities and discussions of themes, analysis of current events relating to the French-speaking world; and the use of written materials as a means of communication. In-depth exploration of cultures is offered through the use of authentic materials from the French-speaking world. Registration-Enforced Prerequisite: FR 202 with a grade of C or better or equivalent. 4 lecture hrs/wk. S (Not offered 2020-2021)

FR 211, 212, 213: Conversational French (3,3,3)

This course provides students with an opportunity for intensive speaking and listening practice to improve oral/aural communication skills in French. Students will learn new vocabulary and expressions through reading and listening activities from

culturally authentic sources representative of the Francophone world. Students will apply these concepts to communicate in conversations, interviews, and role-play skits with other students. Prerequisite: FR 203 or equivalent. 3 lecture hrs/wk. F, W, S (Not offered 2020-2021)

FIRE PROTECTION TECHNOLOGY (FRP)

FRP 101: Fire Fighter Safety & Survival (3)

The course is designed for entry-level fire fighters as well as company and chief fire officers. Emphasis is placed on reducing future injuries and deaths through improving safety behaviors through a study of case reviews, group exercises, and individual research work. Meets or exceeds intent of: NFPA 1021, NFPA 1521. 3 lecture hrs/wk. W

FRP 111: Building Construction for Fire Suppression (3)

This course provides the components of building construction related to firefighter life and safety. The elements of construction and design to a structure are shown to be key factors when inspecting buildings, preplanning fire operations and operating at emergencies. 3 lecture hrs/wk. F

FRP 121A: Elementary Fire Science Part 1 (4)

Elementary Fire Science covers basic firefighting skills of a firefighter including the following: Principles of Fire Behavior, Fire Streams, Ventilation, Breathing Apparatus, Search and Rescue Practices, Ropes and Knots, Portable Fire Extinguishers, Ladders, Fire Hose, Salvage Covers, Small Hand Tools, and Firefighter Safety. This class is part 1 of a two-part class leading to NFPA/DPSST firefighter certification. 3 lecture, 2 lecture/lab hrs/wk. F

FRP 121B: Elementary Fire Science Part 2 (4)

Elementary Fire Science Part 2 covers advanced firefighting skills of a firefighter including the following: Exterior and interior structural fire attack, Search and Rescue Practices, understand the Mayday procedures. Demonstrate how to work within an ICS management system. The student will apply the practical uses of Principles of Fire Behavior, Fire Streams, Ventilation, Breathing Apparatus, Search and Rescue Practices, Ropes and Knots, Portable Fire Extinguishers, Ladders, Fire Hose, Salvage Covers, Small Hand Tools, and Firefighter Safety learned in the FRP 121A class. This class is part 2 of a two part course leading to NFPA/ DPSST firefighter certification. 3 lecture, 2 lecture/lab hrs/wk. W

FRP 122: Fundamentals of Fire Prevention (3)

This course explores the fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; and life safety education; fire investigation. 3 lecture hrs/wk. F

FRP 123: Hazardous Materials Awareness/Operations (4)

Hazardous Materials is designed for entry-level firefighters, as well as industrial fire brigade or safety team members. This course covers how to recognize and handle emergencies involving hazardous materials, within the scope of an Awareness and Operations level responder. It includes: hazard recognition, responding, intervening, and stabilizing the situation. 4 lecture hrs/ wk. F

FRP 132: Fire Pump Construction and Operation (3)

Theory of pump operation, types and features of various pumps, practical operation of fire pumps and accessories. Includes drafting, hydrant and tanker operations, and "rule-of-thumb" fire ground hydraulic calculations. Students should also receive actual practice using local department's apparatus. Meets or exceeds intent of: NFPA 1001-5.1, 5.2, NFPA 1002-4.1, 4.2, 4.3, 5.1, 5.2, 8.1, 8.2, 10.1, 10.2 Annex B.1. Registration-Enforced Prerequisite: FRP 230 Hydraulics, or instructor approval. 2 lecture, 2 lecture/lab hrs/wk. S

FRP 133: Natural Cover Fire Protection (3)

Studies causes, prevention, fire behavior, standing orders, and fire suppression methods of natural cover fires. Focuses on urban interface fire problems. Meets or exceeds intent of: NWCG-S-130, S-190, I-100, L180. 3 lecture hrs/wk. W

FRP 135: Hazardous Materials Chemistry (2)

This course explores basic chemistry relating to the categories of hazardous materials including recognition, identification, reactivity, and health hazards encountered by emergency services. 1 lecture, 2 lecture/lab hrs/wk. W

FRP 159: Fire Behavior and Combustion (2)

This course explores the theories and fundamentals of how and why fires start, spread and how fires are controlled. 1 lecture, 2 lecture/lab hrs/wk. F

FRP 163: NFPA Fire Instructor I (2)

This course provides the student with the basic understanding to be an effective instructor. The class will teach principles of adult learning. The class will describe how to manage a classroom including how to prepare course outlines and lesson plans. The class will discuss training aids and devices. The class will also describe how to evaluate students. This class leads to NFPA/DPSST certification as Fire Instructor I. Prerequisite: Second-year standing with fire protection agency or instructor approval. 2 lecture hrs/ wk. F

FRP 201A: Fire Rescue Practices – Rough Terrain (1)

Introduction to techniques and equipment of vertical rescue operations and Fire Rescue Practices, for fire department rescuers using advance rope and raising practices as per the NFPA 1670 standards. Meets or exceeds intent of: NFPA 1670 6.1-6.4. 12 lecture, 8 lab hours (1 weekend). S

FRP 201B: Fire Rescue Practices – Swift Water (1)

This course is designed to provide students with knowledge and skills to function safely under emergency conditions present during water rescue operations. The students will use advanced rope and water rescue practices as per the NFPA 1670 standards. Meets or exceeds intent of: NFPA 1670 9.1-9.4. 12 lecture, 8 lab hours (1 weekend). Su

FRP 201C: Fire Rescue Practices – Vehicle Extrication (1)

Elementary procedures of rescue practices, systems, components, support, and control of rescue operations. The students will use extrication techniques as per the NFPA 1670 standards. Meets or exceeds intent of: NFPA 1670 8.1-8.4. 12 lecture, 8 lab hours (1 weekend). W

FRP 201D: Swift Water Advance (2)

Advance Fire Rescue Practices, for SR 1 rescuers using advance rope and water rescue practices as per the NFPA 1670 standards. Meets or exceeds intent of: NFPA 1670. 15 lecture, 25 lab hours (1 weekend). Su

FRP 202: Fire Protection Systems (3)

This course provides information relating to the features of design and operation of fire alarm systems, waterbased fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. 3 lecture hrs/wk. W

FRP 212: Fire Investigation (3)

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause. Preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes. Prerequisite: Second-year standing or instructor approval. 3 lecture hrs/wk. W

FRP 213: Fire Fighting Tactics & Strategy (3)

This course provides the principles of fire ground control through utilization of personnel, equipment and extinguishing agents. This course explores fire service history, fire related laws, fire codes and national standards that effect developing and implementing firefighting tactics and strategies. Prerequisite: Second-year standing or instructor approval. 3 lecture hrs/wk. W

FRP 230: Fire Service Hydraulics (4)

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. 3 lecture; 2 lecture/lab hrs/wk. F. Offered winter term

FRP 280: Fire Related Skills (6 terms at 1-4 credits/term)

Orientation to fire incident related experience courses, engine company organization, engine configuration, small tools and minor equipment carried, basic hose practices, basic hose lays, use of protective breathing apparatus, response, district maps, phantom box areas, communication procedures, fire apparatus driving practices. Completion of FRP 280 (6 credits) meets Department of Public Safety Standards and Training (DPSST) NFPA Fire Fighter I. 10-12 lab hrs/wk each. Registration-Enforced Prerequisite: Instructor approval required. F, W, S, Su

GEOLOGY (G)**G 140: Volcanoes, Earthquakes and other Geologic Disasters (3)**

As Will Durant observed, "Civilization exists by geological consent, subject to change without notice." This course will investigate large natural events that impact society on a yearly basis, such as earthquakes, tsunamis, volcanoes, landslides, sinkholes and floods. This course will investigate both the geologic principles as well as the societal impacts of these events. Emphasis will be given to destructive solid-earth phenomena. 3 lecture hrs/wk. W

G 180: Regional Field Geology (4)

This course is a field study of geology features and history in a selected region. Consists of on-campus meetings and a multi-day field trip to illustrate the geologic setting, stratigraphy, structure, topography, age, origin, specific events through geologic time, and features unique to the region. 3 lecture, 3 lab hrs/wk. S

G 201, 202, 203: General Geology (4,4,4)

An introduction to the study of the earth, physical processes affecting the earth, and events of earth history that have shaped it. G 201: Earth materials, rocks and minerals, volcanism, geophysics and seismology, plate tectonics. G 202: Surficial processes, weathering, mass wasting, erosion. Landforms of deserts, coasts, rivers, glaciers. Environmental topics; mining, climate change, fossil fuels, ground and surface water use, and waste disposal. G 203: History of the earth and the fossil record as recorded in the sedimentary sequence. MTH 060 recommended. Optional field excursions to areas of geologic interest. May be started any term. 3 lecture, 3 lab hrs/wk. F, W, S

G 221: Environmental Geology (4)

This course will emphasize the occurrence and distribution of geologic hazards, such as earthquakes, volcanoes, flooding, and slope failure and geologic resources, such as water, air, minerals and energy. The interactions between humans and the geologic environment, including mitigation strategies, will also be covered. 3 lecture, 3 lab hrs/wk. F

GERMAN (GER)

GER 101,102,103: First-Year German (4,4,4)

Survey of German grammar with the aim of mastering all the grammatical forms. Development of speaking ability. Reading and understanding of simple texts. Must be taken in sequence, but entrance permitted at any level. Recommended Prerequisite: WR 095 with a grade of C or better or placement test scores of 70 or above in writing; AND RD 090 with a grade of C or better or placement scores or 85 or above in Reading. 4 lecture hrs/wk. F, W, S (Not offered 2020-2021)

GER 201, 202, 203: Second-Year German (4,4,4)

Systematic discussion of selected grammatical difficulties. Intermediate composition. Reading and discussion of contemporary literary texts. Studies German-speaking countries in general, their people and customs, and their cultural contribution to the Western Hemisphere. Prerequisite: GER 103 or equivalent. 4 lecture hrs/wk. F, W, S (Not offered 2020-2021)

GER 211, 212, 213: Conversational German (3,3,3)

Continuation of the audio-lingual method of GER 201-3. Review of grammar patterns. Expansion of conversational and written skills plus vocabulary through oral discussion and written exercises. Writing German essays on historic and current issues in Germany. Reading and discussion of select German literature. Participate in community activities with students in GER 101-203. Prerequisite: GER 203 or equivalent. 3 lecture hrs/wk. F, W, S (Not offered 2020-2021)

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

GIS 203: Digital World and Geospatial Concepts (4)

Introduction to geospatial technologies such as GPS, smartphones, mobile devices, and online mapping and navigation tools used in GIS, remote sensing, and geovisualization. Introduction of how present day information systems attempt to represent the features and attributes of our natural world in digital form. Examination of how these systems can be used to portray and solve geospatial problems. Introduction to the concept, vocabulary, and use of GIS. Concepts and applications in government, business, and the environment. 3 lecture, 2 lecture/lab hrs/wk. F

GIS 234: GIS I Introduction to Geographic Information Systems (4)

This course is designed as an introduction to Geographic Information Systems and the spatial concepts it promotes. An understanding of digital geographic information and the intelligence behind it will be understood. ArcGIS is the software program used for spatial data input, analysis, and display. 3 lecture, 2 lecture/lab hrs/wk. W

GIS 235: GIS II Data Analysis and Applications (4)

Applications-based course. Develop and conduct geospatial analyses using various spatial data structures, techniques and models. Students acquire, clean, integrate, manipulate, visualize and analyze geospatial data through laboratory work. Import feature and non-feature data into a GIS. Data Conversion. Use of hand-held GPS/GIS units. Use and create web-based GIS applications and services. 3 lecture, 2 lecture/lab hrs/wk. S

GIS 280: Cooperative Work Experience: Geographic Information Systems (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year except for students taking Occupational Skills Training (OST), which has a limit of 24 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

GENERAL SCIENCE (GS)

GS 104: Physical Science (4)

Elementary concepts of physics including motion, forces, energy and momentum, and thermodynamics. Should not be taken for credit if student has completed six or more hours of college-level courses in physics. Registration-Enforced Prerequisite: MTH 060. 3 lecture, 3 lab hrs/wk. F, W, S

GS 105: Physical Science (4)

Elementary concepts of chemistry including atomic structure, bonding, states of matter, solutions, chemical reactions, nuclear and organic chemistry. Should not be taken for credit if student has completed six or more hours of college-level courses in chemistry. Registration-Enforced Prerequisite: MTH 060. 3 lecture, 3 lab hrs/wk. W

GS 106: Physical Science (4)

Elementary concepts of earth science including rock and mineral formation, plate tectonics, earthquakes, volcanoes and other surface processes. Should not be taken for credit if student has completed six or more hours of college-level courses in geology. Registration-Enforced Prerequisite: MTH 060. 3 lecture, 3 lab hrs/wk. S

GS 107: Beginning Astronomy (4)

Introductory course in Astronomy for non-science majors featuring the scientific method; study of planetary and lunar motion including phases of the moon and eclipses; the sun, moon, planets, asteroids, comets, and meteors. Students will learn about the night sky and constellations; formation and destruction of stars; our galaxy and other galaxies; and cosmology. Lab required with either at home night sky observing or optional on-campus observing. Required use of campus observatory either online or on-site for lab projects. Class is completely online with optional and highly recommended use of campus observatory. 3 lecture, 3 lab hrs/wk. Su

GS 112: Making Sense of Science (4)

A course for non-science majors on the processes and methods of scientific inquiry and how scientific knowledge is perceived differently from other types of knowledge. Students will develop skills to analyze and evaluate societal issues that involve scientific knowledge. Laboratory work, student collaboration and peer review are designed to simulate the processes involved in scientific inquiry within a scientific community. 3 lecture hrs/3 lab hrs/wk. S

HUMAN DEVELOPMENT (HD)

HD 100: College Success (3)

This three-credit College Success, first-year experience (FYE) course is designed to introduce first-time students to the college environment. The course will seek to foster a sense of community among first year students, familiarize students with the college environment, and develop an appreciation of learning. Along the way, students will be engaged in activities intended to orientate them to the college, provide them with resources, and help them develop skills necessary to succeed at UCC and beyond. 3 lecture hrs/wk. F, W, S, Su

HD 107: Practicing Success (2)

This course supports and aids Practicing Success students in planning, prioritizing and in developing overall positive study habits. Students will gain the skills to function as an accomplished college student, learning about available resources, applying goal setting and test strategies, practicing homework skills, and supporting the practice of other students. Much of the work is hands-on, and in-class participation is an integral part of the class format and grading. Registration-Enforced Requisites: RD 090, WR 095, and HD 136. 2 lecture hrs/wk. F,W,S

HD 136: Strategies for Success (3)

This course is designed to help students create greater success in college and in life. Students will explore empowering strategies by writing a guided journal, participating in small group and class activities, and completing a final course project. Making these

strategies their own through application, they will have the ability to improve the outcomes of their lives academically, professionally, and personally. This course is required for all students in the Practicing Success cohort. 3 lecture hrs/wk. F, W, S

HD 208: Career and Life Planning (3)

Career Planning is designed to help students make occupational decisions based on self-evaluation and on information and analysis of current career information. Career planning is an on-going dynamic process not a one time decision. This class will focus on the development of a "Life Plan," an integration of information about students and their life goals, and which careers are suitable for this plan. People in the class are at various stages of career planning; some are taking initial steps in the process while others have a solid plan in place. Prerequisite: RD 080, WR 095. 3 lecture hrs/wk. F, W, S

HEALTH (HE)

HE 252: First Aid (3)

Immediate and temporary care for a wide variety of injuries and illnesses, control of bleeding, care for poisoning, and proper methods of transportation, splinting and bandaging. 2 lecture, 2 lec/lab hrs/wk. F, S, Su

HE 280: Cooperative Work Experience: Health (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

HEALTH AND PHYSICAL EDUCATION (HPE)

HPE 295: Wellness & Health Assessment (3)

A foundation course including lecture and physical activity designed to expose the student to the inter-relation of health and physical fitness. Course covers both assessment and improvement of the following: physical fitness, nutritional status, and the ability to cope with stress. The interacting role of the three components in achieving optimal health will be explored with particular emphasis on the cardiovascular system. 2 lecture, 2 lec/lab hrs/wk. F, W, S, Su

HUMAN DEVELOPMENT & FAMILY STUDIES (HDFS)

HDFS 201: Individual and Family Development (3)

Using a lifespan development approach, this course studies individual development, dynamics, and relationships, both within the family and as a part of the larger environment. Prerequisite: WR 115 or placement into/completion of WR 121. 3 lecture hrs/wk. F, W, S

HDFS 225: Child Development (3)

Students will explore inherited and environmental factors which influence the developing child. Physical, social, emotional, and intellectual growth of children from birth through middle childhood. 3 lecture hrs/wk.

HDFS 226: Infant and Toddler Development (3)

Students will explore developmental issues concerning children from birth to 30 months; designing and evaluating activities and programs to enhance development. 3 lecture hrs/wk. S

HDFS 228: The Exceptional Child (3)

Students will build understanding of the exceptional child: the emotionally disturbed, the mentally accelerated, the challenged learner, the physically handicapped, and the culturally and economically disadvantaged. 3 lecture hrs/ wk.

HDFS 240: Contemporary American Family (3)

Study of the American family from a sociological perspective, emphasizing the family as an influence in socialization and development; theories for analyzing the family, alternative family forms, cross-cultural and historical comparisons. 3 lecture hrs/wk. W

HUMAN SERVICES (HS)

HS 100: Introduction to Human Services (3)

An overview of the scope and development of human services, including models of service delivery, historical context, clientele, the helping process, career opportunities, and professional ethics. 3 lecture hrs/wk. F

HS 102: Addiction Pharmacology (3)

An overview of drug use, misuse and addiction, including drug chemistry, physiological effects upon the body and specific treatment formats and techniques. Consideration of current drug use and the psychological/behavioral aspects of client misuse and addiction will be examined along with the impact of culture and genetics. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors. 3 lecture hrs/wk. W

HS 108: Understanding Behavior and Emotional Issues in Older Population (3)

This class is an introduction to the issues of aging. Although designed for human service workers in various fields, others working with the public in any field of study may find their skills in working with the elderly enhanced. The class is interdisciplinary in its approach, including the review of articles related to biological sciences, medicine, nursing, psychology, sociology, and social work. As the population in the United States ages, it is vital that we recognize the importance of effectively relating to older clients, patients and consumers. 3 lecture hrs/wk. S (offered alternating years)

HS 110: Substance-Related Peer Recovery Mentor (3)

This course is designed to help students interested in becoming a Certified Peer Recovery Mentor (CPRM) obtain the skills, resources, and evidence-based practices that are essential for Peer Delivered services in an Addiction Treatment environment. The course will provide opportunities to explore recovery tools consistent with current evidence-based practices while using a developmental cross-cultural perspective for professional development. 3 lecture hrs/wk. W

HS 150: Personal Effectiveness for Human Services Workers (3)

This course develops knowledge and skills to improve personal

effectiveness. Readings, surveys, interviews, and in class exercises to improve skills in self-awareness, values clarification, individual working and communication styles, conflict resolution, and problem-solving strategies. 3 lecture hrs/wk. F

HS 154: Community Resources (3)

An overview of the diversified field of human services via classroom presentations and presentations by local human services agencies/ organizations in order to understand their purpose and philosophy, scope of services, methods of operation, funding services, populations served, and career opportunities. 3 lecture hrs/wk. W

HS 155: Counseling Skills I (3)

This course will provide students with theoretical knowledge and interviewing skills required of human service workers in a variety of work settings including substance abuse counselors. Students will learn the basic processes used for information gathering, problem-solving, and information or advice giving. They will learn about and practice the skills associated with conducting an effective interview. Students will be sensitized to the issues common to interviewing people of differing cultural backgrounds. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors. 3 lecture hrs/wk. W

HS 211: HIV/AIDS & Other Infectious Diseases (2)

The epidemiology of HIV/AIDS, hepatitis, tuberculosis, and sexually transmitted diseases that frequently infect people who use drugs or who are chemically dependent. Students will examine prevention strategies, risk assessment protocols, harm reduction methods, and treatment options. The legal and policy issues that impact infected individuals as well as the larger community will be explored. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors. 2 lecture hrs/wk. S

HS 217: Group Counseling Skills (3)

An introductory course designed to prepare students to describe, select, and appropriately use strategies from accepted and culturally appropriate models for group counseling with clients having a variety of disorders including substance abuse. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors. Registration-Enforced Prerequisite: HS 155 or instructor approval. 3 lecture hrs/wk. S

HS 226: Ethics and Law (3)

How to deal with and apply ethical and legal standards. Federal and state laws and regulations that apply to the field of human services and substance abuse treatment. This class is accepted by MHACBO to meet certification requirements for alcohol and drug counselors. 3 lecture hrs/wk. S

HS 227: Understanding Dysfunctional Families (3)

Dynamics of dysfunction in family systems. Students will engage in class discussion, research, and perform skills necessary to recognizing the symptoms of family dysfunction, intervention strategies, and local community resources to assist families with whom they may be working. 3 lecture hrs/wk. F

HS 229: Crisis Intervention and Prevention (3)

Crisis counseling, early intervention, and nonphysical methods

for preventing or controlling destructive behavior. How to recognize an individual in crisis, assess their needs, and prevent an emotionally or physically threatening situation from escalating. 3 lecture hrs/wk. W

HS 265: Counseling Skills II (3)

This course builds on the skills covered in HS 155: Counseling Skills I. In addition to reviewing the basic processes and skills used for interviewing clients, students will explore and practice new technical skills. These include the skills of confrontation, focusing the interview, eliciting and reflecting meaning, strategies for change, skill integration and determining personal style. Cross-cultural counseling issues will also be included. Prerequisite: HS 155 or Instructor approval. 3 lecture hr/wk. Su

HS 266: Case Management for Human Service Workers (3)

Concepts, ideas, and skills necessary to effectively work as a case manager for any human services delivery program. Identifying participant (client) strengths and strategies for the case manager to provide an environment for change that encourages movement from one stage into another is the primary focus of the course. Classroom practice in all areas of case management will allow for student skill development. (Not recommended for first-year students.) 3 lecture hrs/wk. W

HS 267: Cultural Competence in Human Services (3)

Understanding how cultural differences impact service delivery in human service programs. Personal, community, and institutional bias will be discussed. Practice in delivery and adaptation of counseling strategies cross-culturally will be included. 3 lecture hrs/wk. S

HS 280: Cooperative Work Experience: Human Services (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 11 credits per year. Registration-Enforced Prerequisite: Instructor approval. 3-39 lab hrs/wk. 1 credit = 33 hours of lab. F, W, S, Su

HISTORY (HST)

HST 104: World History (3)

The emergence of organized civilizations in Europe, the Near East, Asia, the Americas, and Africa. The growth of complex civilizations, the rise to predominance and decline of major civilizations. 3 lecture hrs/wk. F

HST 105: World History (3)

Focuses on the world after 1000. Study of the Crusades, Renaissance, Reformation, new political and economic developments in 17th and 18th centuries; commercial and cultural developments in Europe, India, Japan, Africa, the Americas, and China. 3 lecture hrs/wk. W

HST 106: World History (3)

The growth of the early modern world focusing on the impact of new forms of government and the emergence of a technological world. An examination of political revolutionary

events, nationalism and colonialism. A review of the world at war, the late 20th and early 21st centuries, and the prospects for the future. 3 lecture hrs/wk. S

HST 201: History of United States (3)

The American heritage; European colonization; the Colonial Period and internal development; the American Revolution, early national period. 3 lecture hrs/wk. F

HST 202: History of United States (3)

The American Nation; problems, turmoil, and the Civil War; Reconstruction; America reshaped by industrial development, imperial foreign policy, and domestic era of progress. 3 lecture hrs/wk. W

HST 203: History of United States (3)

America in the 20th Century; World War I & II, the Depression, the Cold War, domestic change and Asian war in the 1960s, the politics and domestic history of the 70's to present, and the international role of the U.S. since 1945. 3 lecture hrs/wk. S

JOURNALISM (J)

J 205: Introduction to Public Relations (3)

An introductory course in the theory and practice of Public Relations as a function of modern business, industry and government. Emphasis is on research and program development which utilizes public opinion, persuasion and media relations techniques in helping organizations deal with the various public to which it must respond. Registration-Enforced Prerequisite: WR 115 with a grade of C or better. 3 lecture hrs/wk. S

J 211: Introduction to Mass Communication (3)

Survey of news and opinion media; how the media functions; rights and responsibilities, problems, and criticism; effects of media on society; relation of advertising to media and society; propaganda and the media. 3 lecture hrs/wk. S

J 215: Journalism Production (1-3)

Provides students with practical experience in the processes and production of student media. Experiences may include editorial, photojournalism, or web advertising, and/or graphic design aspects of the student newspaper. Variable credit granted by the instructor depending upon each student's production. 3-9 lab hrs/wk. F, W, S

J 251: Writing for the Media (3)

Introduction to the process and practice of writing for mass media channels. Discussion of rights and responsibilities of the public communicator. 3 lecture hrs/wk. F

J 280: Cooperative Work Experience: Journalism (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Preregistration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

LEGAL ASSISTANT/PARALEGAL (LA)

LA 100: Legal Procedures I (4)

Introductory online course focusing on the responsibilities of legal support personnel. Students will identify professional responsibility, unauthorized practice of law, and required ethical standards and behavior. Students will format legal documents using MS Word with emphasis on correct formatting using Oregon Revised Statutes (ORS) and supplemental Local Court Rules (SLCR). Instructor-Enforced Prerequisites: working knowledge of MS Word and accurate keyboarding speed of 45 wpm. Registration-Enforced Prerequisites: WR 115 or higher. 4 lecture hrs/wk. F, W

LA 101: Introduction to Paralegal Studies (3)

Identify the roles and duties of paralegals including regulations, confidentiality, and conflicts of interest. Develop workplace success skills including tracking billable hours, professionalism, and etiquette. Identify sources of American Law and the civil and criminal law systems. Identify state and local court rules. Learn the different levels of federal, state, and municipal court systems. 3 lecture hrs/wk. W,S

LA 102: Legal Terminology (3)

This course emphasizes developing an understanding of legal terminology through study in all areas of law and on using legal terminology in many different ways. Focus will be on legal definitions, usages, spelling, and pronunciations. 3 lecture hrs/wk. W, S

LA 105: Civil Procedure (3)

This course will focus on the various stages of the civil litigation process, including the initial client interview, process leading to the filing of a civil lawsuit, its resolution by settlement or trial, and a brief review of the appellate process. Emphasis will be on the actual preparation of the documents, with a major focus on the discovery phase of the civil litigation process. This course will demonstrate how each stage of civil litigation builds, relates to, and is dependent upon the others. Registration-Enforced Prerequisites: LA 128, with a grade of C or better. 3 lecture hrs/wk. S, Su

LA 128: Legal Procedures II (4)

This is a transcription course to help students learn the importance of correctly preparing legal documents using MS Word to apply Oregon Revised Statutes (ORS) and Supplemental Local Court Rules (SLCR). This course will help students develop perspective and capacity for decision making to adapt knowledge and skills. Registration-Enforced Prerequisite LA 100, OA 128 and LA 102. 2 lecture, 4 lecture/lab hrs/wk. W,S

LA 132: Ethics for Legal Professionals (3)

This course covers the study of ethics as it relates to the legal profession. Students will study the concepts of ethics and being ethical, explore the differences between morality and rules of ethics, and study the rules of professional responsibility as they pertain to legal support staff (and lawyers). Discussions and opinions of ethical issues in real-world situations will help facilitate the learning process on this topic. Students will enhance their legal vocabulary as it is used in ethics and study the Oregon Rules of Ethics and their practical application. Registration-Enforced Prerequisites: LA 100 and LA 102, with a grade of C or higher. 3 lecture hrs/wk. S, Su

LA 204: Legal Research and Writing I (4)

Introduction to the techniques of legal research and writing with emphasis on understanding, locating, analyzing, applying, and updating sources of law; effective legal writing, including proper citation; and the use of electronic research methods. Upon completion, students should be able to perform basic legal research and writing assignments using techniques covered in this course. Registration-Enforced Prerequisite: LA 105 with a grade of C or better. 2 lecture, 4 lecture/lab hrs. F

LA 205: Legal Research and Writing II (4)

Advanced course to cover topics in legal research and writing, including more complex legal issues and assignments involving preparation of legal memos, briefs, and other documents and the advanced use of electronic research methods. Upon completion, student should be able to perform legal research and writing assignments including memorandum of law, persuasive writing, motions, and legal correspondence using techniques covered in this course. Registration-Enforced Prerequisites: LA 204 with a grade of C or better. 2 lecture, 4 lecture/lab hrs/wk. W

LA 208: Family Law (3)

This course presents fundamental concepts of family law with emphasis on the paralegal's role. Topics include court jurisdiction, prenuptial, divorce, annulment, marital property, custody, parenting time, and child support. Registration-Enforced Prerequisites: LA 105 with a grade of C or better. 3 lecture hrs/wk. F

LA 210: Wills, Probate, and Estates (3)

An introduction to estates, trusts, probate, and the laws of testate and intestate succession. Covers procedures in probate court, including opening, administration, and closing of probate estates. Identify various tax laws governing trust estates and the passing of estate property through probate proceedings. Registration-Enforced Prerequisites: LA 105 with a grade of C or better. 3 lecture hrs/wk. F

LA 217: Real Estate Law for Paralegals (3)

This course introduces paralegals to the principles of business law as applied to real estate. The topics covered include ownership rights and limitations, transfer and reservation of ownership rights, brokerage relationships, laws of agency, contracts, fair housing, owner/tenant relationships, and other topics illustrated by case law and practice. Registration-Enforced Prerequisites: LA 105 with a grade of C or better. 3 lecture hrs/wk. S

LA 224: Torts Pleading and Practice (3)

Introduces the theory and practical application of the law of torts. The fundamentals of drafting legal documents normally associated with torts are addressed with application of state and local rules of civil procedure. Registration-Enforced Prerequisite: LA 105 with a grade of C or better. 3 lecture hrs/wk. W

LA 226: Criminal Law for Paralegals (3)

Introduces criminal law and procedure with an emphasis on the legal assistant's role in the criminal justice system. Learn procedural rules, including the right to counsel, search and seizure, interrogation, and self-incrimination. Cover the stages of prosecution, pre-trial motions, jury selection, document

preparation, trial practice, verdict, sentencing and judicial review, and sources of criminal law. Registration-Enforced Prerequisite: LA 105 with a grade of C or better. 3 lecture hrs/wk. S

LA 280: Cooperative Work Experience: Legal Assistant (1-12)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su (A maximum of 12 credits may be applied towards a Paralegal Associate Degree.)

LIBRARY (LIB)

LIB 127: Library and Internet Research (3)

This course is designed to take students through the research process as they learn to search, find, access, and utilize information efficiently from a variety of library and Web resources. Upon successful completion of this course, students gain transferable research skills for academic and career success, personal interests, and lifelong learning. As this course focuses on critical thinking, students learn to evaluate, select, and interpret information sources. Students are introduced to information issues that affect their local and global communities as they learn to share information ethically according to Copyright and Creative Commons licenses and apply a standard citation style format to their work. Students take an active role by clearly and effectively contributing what they have learned to a larger community or scholarly conversation. 3 lecture hrs/wk. F, W, S

MEDICAL OFFICE (MED)

MED 060: Math for the Medical Assistant (3)

This course is designed to provide students with math skills required to work in allied health fields. The course includes ratio and proportion calculations, an introduction to the metric and apothecary systems of measure, metric-household-apothecary conversions, use of a 24-hour clock, general accounting concepts applicable to running medical offices, unit conversions between Fahrenheit and Celsius scales, insurance co-pay and deductible calculations, interpretation of physician drug orders, and a brief introduction to statistics as it applies to the allied health field. 3 lecture hrs./wk. S

MED 100: Intro to Healthcare Careers (2)

This course is designed to give students an opportunity to research career path options and learn about a variety of careers in healthcare. Students will learn the educational requirements and physical and professional demands of the various careers through research and from the perspective of practicing professionals.

MED 111: Medical Terminology I (3)

Medical Terminology I is the first course in a two-course sequence designed to introduce students to medical terminology through the study of medical word roots, prefixes, and suffixes within the context of body systems. Students will also learn abbreviations as well as pathology and procedure terminology within the context of body systems. Focus is placed on constructing words and defining words given the word elements. 3 lecture hrs/wk. F, W, Su

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MED 112: Medical Terminology II (3)

Medical Terminology II is the second course in a two-course sequence designed to introduce students to medical terminology through the study of medical word roots, prefixes, and suffixes within the context of body systems. Students will also learn abbreviations as well as pathology and procedure terminology within the context of body systems. Focus is placed on constructing words and defining words given the word elements. Registration-Enforced Prerequisite: MED 111 with a grade of C or better. 3 lecture hrs/wk. W, S, Su

MED 114: Medical Coding for the Physician's Office (3)

This course covers theoretical and practical fundamentals of outpatient billing, including Current Procedural Terminology (CPT), International Classification of Diseases, 9th or 10th Revision, Clinical Modification (ICD-9 or ICD-10) and CMS Healthcare Common Procedural Coding System (HCPCS), Registration-Enforced Prerequisite: MED 111 with a grade of C or better. 3 lecture hrs/wk. W

MED 115: Anatomy and Physiology for Medical Assistants (3)

This course includes basic concepts of anatomy and physiology, integrated disease-related information, clinical applications, and terminology. Students will gain in understanding of body structure and function and disease process as it relates to work in a clinic or doctor's office. The course will cover recognition of systems and reporting criteria. Registration-Enforced- Prerequisite: MED 111 with a grade of C or better. 3 lecture hrs/wk. W

MED 140: Electronic Health Records (3)

This course reinforces theoretical concepts with hands-on exercises using electronic health records that simulate real-world situations in the clinical setting. The course covers exam notes, prescriptions, lab orders and results, as well as the history, theory, and potential benefits of electronic health records. Prerequisites: CIS 120 and MED 220 or instructor approval. 2 lecture, 2 lec/lab hrs/wk. S

MED 182: Health Care Delivery Systems (3)

The course explains the past, present, and future influences on the delivery of health care. Covers provider organizations and settings in health care, financing of health care, causes and characteristics of health care utilization in the United States, regulation and monitoring of health care systems and ethical issues associated with health care technology. Registration-Enforced Prerequisite: CIS 120 or instructor approval. 3 lecture hrs/wk. F

MED 220: Medical Office Procedures I (3)

The course is an introductory course in current medical office procedures. Subjects taught include the medical office environment, current practices and problems, medical ethics and law, and patient relations and communications. Registration-Enforced Prerequisite or Corequisite: MED 111. 3 lecture hrs/wk. F

MED 221: Medical Office Procedures II (3)

This is an intermediate course in medical office procedures. Students are exposed to a variety of subjects, all of which pertain to medical assisting: medical records, drug and prescription records, health care reimbursement issues and regulations, and coding. Registration-Enforced Prerequisite: MED 220 with a grade of C or better. 3 lecture hrs/wk. W

MED 230: Health Insurance Concepts (3)

This course is designed to give students a good working knowledge of health insurance for medical offices and clinics, i.e., non-hospital settings. Topics include the CMS-1500 and the rules and regulations governing Medicare, Medicaid, Workers' Compensation, Blue Cross Blue Shield, and managed care programs. Registration-Enforced Prerequisite: MED 111 with a grade of C or better. 3 lecture hrs/wk. W

MED 231: Health Care Reimbursement and Collections (3)

This course provides students with a working knowhealthcare reimbursement, accounting and collection processes for medical offices and clinics. Students will be presented with how to file insurance claims and what to do after the insurance. These topics include how to request an appeal or review, managing the accounts receivable and how to collect the balance due from the patient. Included is the importance of compliance and HIPAA regulations. Registration-Enforced Prerequisite: MED 230. 3 lecture hrs/wk. S

MED 260: Medical Document Processing (3)

This course is a beginning medical transcription course. The types of reports and medical specialties will vary. Students will be required to use correct punctuation and spelling in documents. Students will begin using a variety of medical reference books. Registration-Enforced Prerequisites: OA 123, OA 128 and MED 112, all with a grade of C or better. 1 lecture, 4 lecture/lab hrs/wk. S

MACHINE MANUFACTURING TECHNOLOGY (MFG)

MFG 104: Principles of Lean Manufacturing (1)

This course provides foundations and practices related to lean manufacturing and is targeted to employees of business, government, and agencies in this community that are interested in lean. Lean manufacturing processes address societies' needs to maximize the use of resources in order to compete effectively in the global economy. Lean is a re-generation of Total Quality Management with new principles that use data for decision-making for system improvement. Instructor approval required. 1 lecture hr/wk.

MFG 108: Starrett: PMI - Precision Measurement Instruments (2)

This course covers, safety, equipment, and essential variables of operation for the Starrett Precision Measurement Instruments Certification. This course will involve the use of tape measures, scales, and rules, slide calipers, gauge measurement, angle measurement, micrometer measurement, dial indicator and bore measurement. This course includes, but is not limited to: classroom discussions, multimedia presentations, and lab demonstrations covering technical skills. 4 lecture/lab hrs/wk.

MFG 111: Machine Shop Practices I (3)

Introduces the student to semi-precision and precision measuring and layout procedures, the use of bench tools, saws, drill presses and their accessories. Registration-Enforced Prerequisite: MFG 108 and MTH 052 or MTH 060. 6 lecture/lab hrs/wk.

MFG 112: Machine Shop Practices II (3)

The student learns the operation of the turning lathe including setup, turning tapers, threads (National, Acme, Square) and forms. Use of accessories is stressed such as chucks, steady rests, follower rests and grinders. Registration-Enforced Prerequisite: MFG 111. 6 lecture/lab hrs/wk.

MFG 113: Machine Shop Practices III (3)

The student learns the operation of horizontal and vertical milling machines, their setup, basic operation and use of accessories such as digital readouts, rotary table, dividing head, gear and cam milling and the use of indicators, wigglers and edge finders. Registration-Enforced Prerequisite: MFG 112.

MFG 121: Hydraulics I (3)

An introductory course covering the basic principles of hydraulics for the future industrial hydraulics technician. Included in the course are pressure, force and area relationships, HP, GPM, and velocity relationships, fundamentals of reservoir design, fluids and fluid flows, and fundamentals of hydraulic pumps. Common industrial circuits are developed and studied with the use of lab trainers. Students will disassemble, inspect, and reassemble both components and circuits in structured lab sessions. Registration-Enforced Prerequisite: MTH 052 or MTH 060. 3 lecture hrs/wk.

MFG 122: Hydraulics II (3)

This is the second in a five-course series for the industrial apprentice and is a continuation of Hydraulics I. The focus is on pressure relief valves, hydraulic actuators and flow controls. Each component is studied in structured classroom sessions, while lab activities are directed at disassembly, inspection and circuitry involving the specific component. Students will be using lab trainers to examine the operation of circuits using these components. Registration-Enforced Prerequisite: MFG 121. 3 lecture hrs/wk.

MFG 123: Hydraulics III (3)

This is the third in a five-course series for the industrial apprentice and is a continuation of Hydraulics II. Each student will study contamination control, hydraulic actuators, flow controls, and hydraulic accessories. Circuits using those components are fabricated, discussed, and studied during structured lab sessions. Registration-Enforced Prerequisite: MFG 122. 3 lecture hrs/wk.

MFG 124: Hydraulics IV (3)

This is a continuation of Hydraulics I, II, and III with an emphasis on the symbols, hydraulic schematics, and troubleshooting of hydraulic circuits. The class will be divided into two different sessions. The first session will be devoted to studying symbols and schematics, while the second session will work with circuits on lab trainers. Specific class sessions will be devoted to developing the skills and knowledge necessary to successfully pass the National Fluid Power Certification Exam. Registration-Enforced Prerequisite: MFG 123. 3 lecture hrs/wk.

MFG 125: Hydraulics V (3)

This is the fifth course in a series for practicing industrial maintenance millwrights desiring instruction in industrial hydraulics. This course is an introduction to proportional and servo valves used in modern hydraulics systems. Students will work with

simulators, lab trainers, program cards and related hydraulic and electronic components. Because an understanding of electricity and basic electronics is needed in this course, two sessions will be devoted to the study of these concepts using electrical training simulators. Some diagnostic and troubleshooting skills relative to the adjustment and programming of both proportional and servo systems will be presented. Registration-Enforced Prerequisite: MFG 124. 3 lecture hrs/wk.

MATHEMATICS (MTH)

MTH 020: Pre Algebra (4)

This course is a continued study of arithmetic concepts, as well as an introduction to algebra. Topics include basic operations with fractions, ratio and proportion, decimals, percent, integers and a brief look at algebraic expressions/equations. Problem solving is emphasized. Successful completion prepares the student for Math 060, Introduction to Algebra. 4 lecture hrs/wk. F, W, S, Su

MTH 052: Industrial Applications of Math (4)

This is an introductory algebra and geometry class in professional-technical mathematics. Topics covered include signed numbers, algebraic equations and formulas, ratio and proportion, perimeters, areas, volumes. This course does not serve as a prerequisite for MTH 065. Registration-Enforced Prerequisite: MTH 020 with a C or better, placement by approved measure, or instructor permission. 4 lecture hrs/wk. W

MTH 060: Intro to Algebra (4)

This course is intended for students who wish to start at the very beginning of algebra. The course emphasizes basic concepts, definitions, and procedures along with practical applications and problem-solving skills. This course introduces basic operations with integers, exponents, scientific notation, algebraic expressions, linear equations, geometry, ration and proportion, unit conversions, percent, operations with polynomials, and factoring polynomials. Registration-Enforced Prerequisite: MTH 020 with a C or better, placement by approved measure, or instructor permission. 4 lecture hrs/wk. F, W, S, Su

MTH 065: Elementary Algebra (4)

This course in algebra is intended for the student who has familiarity with beginning algebra and geometry concepts. The course emphasizes basic concepts, definitions, and procedures along with practical applications and problem-solving skills. This course includes graphing lines, solving systems of equations in two variables using elimination or substitution, factoring polynomials, and solving quadratic equations by factoring. Registration-Enforced Prerequisite: MTH 060 with a grade of C or better, placement by approved measure, or instructor permission. 4 lecture hrs/wk. F, W, S, Su

MTH 075: Applied Geometry (3)

Industrial applications of basic algebra and geometry. Emphasis on formulas, ratio-proportion, applied geometry, trigonometry, area, volumes. Registration-Enforced Prerequisite: MTH 052 or MTH 060 with a grade of C or better, placement by approved measure, or instructor permission. 3 lecture hrs/wk. S

MTH 095: Intermediate Algebra (4)

This course is intended for students with prior exposure to algebra topics including linear equations in one and two variables, polynomials and factoring. The course emphasizes basic concepts, definitions, and procedures along with practical applications and problem-solving skills. Although fundamental concepts are stressed, the pace of the course is faster than an introductory course. This course covers unit conversions, an introduction to functions, rational expressions and equations, radical expressions and equations, and quadratic expressions and equations. Registration-Enforced Prerequisite: MTH 065 with a grade of C or better, placement by approved measure, or instructor permission. 4 lecture hrs/wk. F, W, S, SU

MTH 098: Math Literacy (5)

MTH 098 provides algebra, quantitative reasoning, and problem-solving skills needed in MTH 105 and in other college courses in programs not requiring calculus or trigonometry. For students who do not need calculus or trigonometry, MTH 098 is an alternative to MTH 065/095 as a pathway to MTH 105. Registration-Enforced Prerequisites: MTH 060 with a grade of C or better, or placement by approved measure into MTH 065 and higher. 5 lecture hrs/wk. W

MTH 105: Math in Society (4)

Math in Society is a rigorous mathematics course designed for students in Liberal Arts and Humanities majors. This course provides a solid foundation in quantitative reasoning, symbolic reasoning, and problem solving techniques needed to be a productive, contributing citizen in the 21st century. Applications of mathematics will be explored with a major emphasis on the integration of mathematics with other subjects, communicating mathematics effectively orally and in writing, and reasoning quantitatively. Registration- Enforced Prerequisite: MTH 095 or MTH 098 with a grade of C or better, placement by approved measure, or instructor permission. 4 lecture hrs/wk. W, S

MTH 111: College Algebra (5)

This course is intended for students requiring college-level algebra. This course is a study of functions and their uses. Primary topics are basic properties of functions, operations involving functions, and basic analysis and graphing of quadratic, polynomial, rational, exponential, and logarithmic functions. Additional topics include solving equations involving each function type, obtaining models from descriptions and data, and solving systems of equations. Applications, modeling, and problem-solving are stressed throughout the course. The use of computers or graphic calculators is an integral part of the class. Registration-Enforced Prerequisite: MTH 095 with a grade of C or better, placement by approved measure, or instructor permission. 5 lecture hrs/wk. F, W, S, Su

MTH 112: Elementary Functions (4)

The study of Trigonometry and its applications in the world around us. Topics include: trigonometric functions, radian measure, graphs of trig functions, solutions of right and oblique triangles, identities, conic sections, special formulas, inverse trig functions, polar coordinates, complex numbers, DeMoivre's Theorem. Instructor-Enforced Prerequisite: MTH 111 or equivalent with a grade of C or better, or instructor permission. 4 lecture hrs/wk. F, W, S, Su

MTH 211: Fundamentals of Elementary Mathematics I (4)

The first of a three-term sequence of mathematics for prospective elementary and middle school teachers. Topics include mathematical patterns, problem solving, sets, natural numbers, whole numbers, one-to-one correspondence, numeration systems, tests of divisibility, prime and composite numbers, greatest common divisor, least common multiple, computer literacy activities, and elementary school activities in mathematics. Registration-Enforced Prerequisite: MTH 095 with a grade of C or better, placement by approved measure, or instructor permission. 4 lecture hrs/wk. F

MTH 212: Fundamentals of Elementary Mathematics II (4)

The second of a three-term sequence of mathematics for prospective elementary and middle school teachers. Topics include: fractions, integers, decimals, percent, ratio, elementary probability and statistics, beginning algebra concepts, irrational numbers, scientific notation, computer literacy activities, and elementary school activities in mathematics. Registration-Enforced Prerequisite: MTH 211 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. W

MTH 213: Fundamentals of Elementary Mathematics III (4)

The third of a three-term sequence of mathematics for prospective elementary and middle school teachers. Topics include; two and three dimensional geometric figures, measurement, areas, perimeters, volumes, congruency and similarity of geometric figures, computer literacy activities, and elementary school activities in mathematics. Registration-Enforced Prerequisite: MTH 212 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. S

MTH 231: Elements of Discrete Mathematics I (4)

Introductory course in discrete mathematics, designed to introduce basic non-calculus mathematics required in the study of computer science. Topics include elementary logic, set theory, functions, mathematical induction, matrices, and combinatorics. Instructor-Enforced Prerequisite: MTH 111 or equivalent with a grade of C or better, or instructor permission. 4 lecture hrs/wk. W

MTH 241: Calculus for Management & Social Science I (4)

This is the first of two courses in elementary calculus designed especially for business and social science majors. The student will gain an understanding of differential calculus numerically, algebraically, and graphically, and will be able to use it to analyze and solve problems. Throughout the course, applications to business, economics, and social science will be stressed. Computers and graphing calculators will be used to learn and demonstrate the mathematical concepts. Registration-Enforced Prerequisite: MTH 111 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. W

MTH 242: Calculus for Management & Social Science II (4)

This is the second of two courses in elementary calculus designed especially for business and social science majors. The student will gain an understanding of integer calculus numerically, algebraically, and graphically, and will be able to use it to analyze

and solve problems. Throughout the course, applications to business, economics, and social science will be stressed. Computers and graphing calculators will be used to learn and demonstrate the mathematical concepts. Registration-Enforced Prerequisite: MTH 241 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. S

MTH 243: Introduction to Probability & Statistics (5)

Introductory course in probability and statistics, designed to acquaint the student with some basic theory and applications. Calculators will be used throughout the course. Basic topics include probability models, random variables, probability distributions, sampling distributions, descriptive statistics, and methods of estimation. Registration-Enforced Prerequisite: MTH 105 or above with a grade of C or better, or instructor permission. 5 lecture hrs/wk. F,W,S, Su

MTH 251: Calculus I (5)

This course deals entirely with differential calculus. The course (1) develops the main ideas of calculus forming a sound theoretical basis (proving some of the theorems and deriving the various formulas and methods), (2) presents applications of the calculus, (3) provides the necessary background for MTH 252, and (4) uses technology to teach and demonstrate the mathematical concepts of calculus. Registration-Enforced Prerequisite: MTH 112 or with a grade of C or better, or instructor permission. 5 lecture hrs/wk. F, W

MTH 252: Calculus II (4)

This course is a continuation of MTH 251. The course (1) presents a blend of theory and applications of integral calculus and (2) provides the necessary background for MTH 253, and (3) uses computers to learn and demonstrate the mathematical concepts of the calculus. Registration-Enforced Prerequisite: MTH 251 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. W, S

MTH 253: Calculus III (4)

This is the third quarter of a four-quarter sequence for math majors and engineering students. Topics include improper integrals, conic sections, polar coordinates, parametric equations, and infinite series. Computers and graphing calculators will be used to learn and demonstrate the mathematical concepts. Instructor-Enforced Prerequisite: MTH 252 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. S

MTH 254: Vector Calculus I (4)

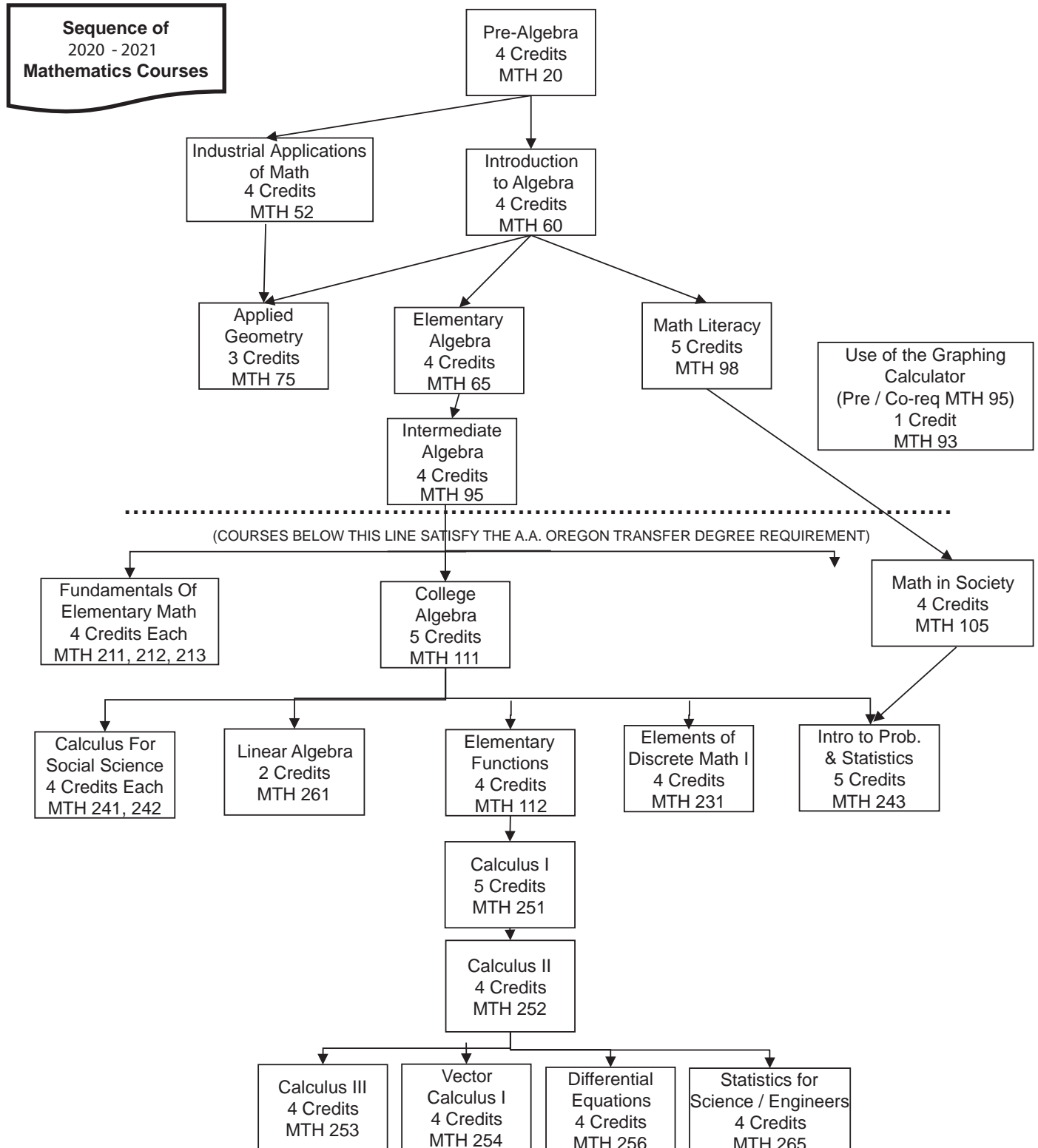
The study of multivariate calculus with a vector approach. Topics include; vectors, vector calculus, functions of several variables, gradients, differentials, and multiple integration. Registration-Enforced Prerequisite: MTH 252 with a grade of C or better, or instructor permission. 4 lecture hrs/wk. F

MTH 256: Differential Equations (4)

Methods of solving ordinary differential equations. Topics include; study of first, second, and higher order differential equations with applications. Registration-Enforced Prerequisite: MTH 252 with a grade of C or better. 4 lecture hrs/wk. W

Umpqua Community College Sequence of Mathematics Courses

(students may begin in the course indicated by placement test scores)



MTH 261: Intro to Linear Algebra (2)

This class is designed as a companion course to MTH 253 to satisfy entry requirements into Oregon State University's School of Engineering, but can also be taken as an introduction to Linear Algebra. Linear Algebra deals with the study of linear systems, matrices and linear transformations. Topics include: the algebra of matrices, the systematic solution of linear systems by reduction methods, linear transformations and eigenvalues. Applications to various fields of interest will be emphasized throughout the course. Registration-Enforced Prerequisite: MTH 111 with a grade of C or better, or instructor permission. 2 lecture hrs/wk. S

MTH 265: Statistics for Scientists and Engineers (4)

This course covers probability and inferential statistics applied to scientific and engineering problems. Includes random variables, expectation, sampling, estimation, hypothesis testing, regression, correlation and analysis of variance. This course satisfies the OSU requirement of ST 314 for engineering programs. Registration-Enforced Prerequisite: MTH 252 with a grade of C or better. 4 lecture hrs/wk. S

MTH 280: Cooperative Work Experience: Mathematics (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

MUSIC PERFORMANCE (MUP)

MUP 101-292: Performance Studies (1-2)

Individual instruction in the performance techniques of voice, brass, woodwinds, piano, and strings. 100: Technical stylistic aspects of artistic performance; first level of lower division study for music majors. 200: Second level of lower division study for music majors. Special fee assessed. 1-2 lecture hrs/wk.

MUP 114: General Ensemble (1)

Formation of traditional chamber groups such as woodwind, quartet, quintets, brass ensemble, strings quartets, other duets and trios. Groups will meet weekly to rehearse and will give a concert at the end of each term. 2 lecture/lab hrs/wk. F, W, S

MUP 121: Symphonic Choir (1)

The Vintage Singers is a small ensemble; entry is by audition with instructor. Students should have exceptional musical skills and considerable background in serious formal choral music. 2 lecture/lab hrs/wk. F, W

MUP 151: Music Theatre (3)

The students perform in the cast of an Umpqua Community College musical. The student must participate as a singing cast member, as a principle character or member of the chorus. 6 lecture/ lab hrs/wk. Su

MUP 158A, 158B, 158C - 192A, 192B, 192C MUP 258A, 258B, 258C - 292A, 292B, 292C Performance Studies (1-2)

Individual instruction in the performance techniques of voice, brass, woodwinds, piano, and harpsichord. 100: Technical stylistic aspects of artistic performance; first level of lower division study for music majors. 200: Second level of lower division study for music majors. Special fee assessed. 1-2 lecture hrs/wk.

MUP 189A, 189B, 189C: Chamber Choir (2)

Study of vocal jazz and popular music. The Umpqua Singers is a vocal jazz ensemble with emphasis on the performance of contemporary music. Entry by audition only. 6 lab hrs/wk. F, W, S

MUP 195A, 195B, 195C: Concert Band (1)

The UCC Concert Band provides music and non-music majors an opportunity for woodwind, bass, and percussion students to study, rehearse and perform all types of concert band literature. 2 lecture/lab hrs/wk. F, W, S

MUP 196A, 196B, 196C: Chamber Orchestra (1)

The Umpqua Chamber Orchestra is open to strings; brass and woodwinds selected on basis of music to be performed. 2 lecture/lab hrs/wk. F, W, S

MUP 197A, 197B, 197C: Concert Choir (1)

The UCC Chamber Choir is for majors and non-majors in music and offers varied selection of choral music experiences. Entry by permission of the instructor. 3 lab hrs/wk. F, W, S

MUP 295: Jazz Band (1)

This Big Horn Jazz Band is open to students and community musicians. All types of jazz band literature will be rehearsed and performed, from swing to jazz-rock. By instructor approval. 2 lecture/lab hrs/wk. F, W, S

MUP 297A, 297B: Concert Choir (1)

Known as the Roseburg Concert Chorale — a non-audition community choir that performs two major concerts each year. 2 lecture/lab hrs/wk. F, W

MUSIC (MUS)

MUS 100A, 100B, 100C Musical Fundamentals (3)

An introduction to the elements of music for the non-music major and pre-music major. The course includes beginning piano music notation, scales, rhythm and ear training. No previous musical training is required. 3 lecture hrs/wk. F, W, S, Su

MUS 105: Intro to Rock Music (3)

This course will examine the sociological and musical perspectives of the seventy years of rock music. The effects of rock music on our society, politics, and economics will be explored. The class will incorporate recorded and live music, videos, lecture, and group discussion. Students will be required to do reading, listening, and a significant amount of writing. This course meets Humanities requirements. 3 lecture hrs/wk.

MUS 111, 112, 113: Music Theory (3,3,3)

Basic theory. A study of patterns, melody, harmony, and form in music. Fundamental knowledge for composers and performers. Completing the two-year sequence satisfies the Theory requirement for music majors at state colleges. Registration-Enforced Corequisite: MUS 114, 115, 116. 3 lecture hrs/wk. F, W, S

MUS 114, 115, 116: Aural Skills I (1,1,1)

The study of ear training and sight singing. Stresses music terminology, rhythm, intervals. Registration-Enforced Corequisite: MUS 111,112,113. 1 lecture hr/wk. F, W, S

MUS 117, 118, 119: Intro to Music & Technology (2)

Recording, arranging, music notation, digital and analog synthesis. Students will learn how to create sound in a digital environment, edit sound recordings, and create music manuscripts. Minimum piano keyboard skills or music reading ability required. 2 lecture hrs/wk. F, W, S

MUS 131, 132, 133: Class Piano (2,2,2)

First year class piano for music majors with little or no previous instruction. Students learn basic fundamentals of reading music and playing the piano. Class piano or individual piano lessons must be taken concurrently with Music Theory until adequate pianistic skills are acquired. Registration-Enforced Corequisites for MUS 131: MUS 111 and MUS 114; for MUS 132: MUS 112 and MUS 115; for MUS 133: MUS 113 and MUS 116. 2 lecture hrs/wk. F, W, S

MUS 134, 135, 136: Class Voice (2,2,2)

Class Voice is open to all students who wish to learn basic vocal skills in a class setting. Emphasis will be on breathing techniques, posture, voice placement, vowel production and easy literature. 2 lecture hr/wk. F, W, S

MUS 137, 138, 139 Beginning Class Guitar (2,2,2)

An introduction to guitar technique for the beginning guitar student. The course teaches the fundamentals of guitar playing, music theory and ear training as it relates to the guitar, and appreciation of traditional and contemporary guitar performers. 2 lecture hrs/wk. F, W, S

MUS 161: Jazz Improvisation: Instrumental (3)

The objective of this course is to teach the participant how to improvise or improve the existing improvisational skill. Presentations and discussions will cover a variety of improvisational styles including jazz, rock, country, and classical. Class time will include listening, observing, and performing. Written assignments will consist of transcriptions. 3 lecture hrs/wk. Su

MUS 201, 202, 203: Intro to Music & Its Literature (3,3,3)

Cultivation of understanding and intelligent enjoyment of music through a study of its elements, forms, and historical styles. This course is designed for general campus students and the transfer music major. No previous musical experience is required. This course meets the required three credits for UCC AAOT Cultural Literacy. 3 lecture hrs/wk. F, W, S

MUS 204: Music of the World (3)

This course will allow the student to study a variety of musical styles from around the world. Special emphasis will be placed on examining the relationship between a culture or society

and the music that it creates. No previous musical experience will be necessary and students will be taught a range of basic skills to evaluate, analyze, and critically assess what they hear. Different genres, styles, and aesthetics will be covered, including the music of Africa, South America, and Indonesia. Additionally, Native American and African American musical heritages will be discussed. This course meets the required three credits for UCC AAOT Cultural Literacy. 3 lecture hrs/wk. W, S

MUS 205: Intro to Jazz History (3)

This course provides the student with listening skills and historical overview of jazz from its origin to the present. Emphasis on in-class listening and discussion of the music. No musical background is needed to take this class. This course meets the required three credits for UCC AAOT Cultural Literacy. 3 lecture hrs/wk.

MUS 211, 212, 213: Music Theory II (3,3,3)

Second year theory examines the structure and elements of music through analysis of the styles of major composers. Prerequisite: MUS 111, 112, 113. Corequisite: MUS 224, 225, 226. Class piano or individual piano lessons must be taken concurrently with Music Theory until adequate pianistic skills are acquired. 3 lecture hrs/wk. F, W, S

MUS 214, 215, 216: Intermediate Piano (2,2,2)

Second year of class piano. Offers theory and practice in piano techniques such as modulation, transportation, chord, reading, and extemporaneous playing. Prerequisite: MUS 131,132,133 or equivalent skills. 2 lecture hrs/wk. F, W, S

MUS 224, 225, 226: Aural Skills II (1,1,1)

The study of ear training and sight singing. Stresses music terminology, rhythm, intervals. Corequisite: MUS 211, 212, 213. 1 lecture hr/wk. F, W, S

MUS 280: Cooperative Work Experience: Music (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

NATURAL RESOURCES (NR)**NR 201: Introduction to Natural Resources (3)**

Introductory course for Natural Resources majors. Overview of the underlying principles and complexities involved in managing natural resources of the Pacific Northwest. Investigation of major natural resource issues of the region. Development of critical thinking and collaboration skills useful in seeking solutions. 3 lecture hrs/wk. F

NR 221: Water Resource Science (4)

This course offers a field-based introduction to methods for measurement and monitoring of the hydrological parameters of natural water resources, the relation between those parameters and the quality of the resource, and strategies for management of those parameters. Registration-Enforced Prerequisite: MTH 111. 3 lecture, 3 lab hrs/wk. W

NR 230 - Forest Ecosystems

Principles of ecosystem dynamics in forested communities, landscapes and bioregions. Coevolution of competition, predation and mutualism. Energy flow, nutrient cycles and feedback controls. The effects of disturbance and succession on biodiversity and habitat stability through time. Prerequisite: completed course in Biology or Natural Resources or instructor approval. 3 lecture hrs/wk. F

NR 240: Forest Biology (4)

Forest Biology is a basic course that provides a broad foundation in biology that is relevant to many natural resource issues. This course examines forest biology at multiple levels of organization, from molecules to the globe; principles of ecosystem dynamics in managed and unmanaged forest communities, landscapes and bioregions; coevolution of competition, predation, decomposition, and mutualism; energy flow, nutrient cycles and feedback controls; the effects of disturbance and succession on carbon storage, biodiversity, and habitat stability through time. Prerequisite: completed course in Biology or Natural Resources or instructor approval. 3 lecture, 3 lab hrs/wk. F

NR 241: Dendrology (4)

Identification of the principal forest trees of North America, emphasizing trees and shrubs of the Pacific Northwest. Other topics include the ranges over which these species grow, their structure and function, important ecological characteristics, and principal uses. We will also survey forested biomes of the world. Field trips required on and off campus. This course is cross listed as both NR 241 and FOR 241. 3 lecture, 3 lab hrs/wk. S

NR 243: Historical Ecology of Pacific Northwest Landscapes (3)

Students will learn about changes in the landscape of the Pacific Northwest from the end of the last ice age to the present with an emphasis on Southwestern Oregon and Northern California. Students will examine the changing uses of the environment by a succession of cultures, and their effects on landscape structure and function by using a range of tools to analyze archaeological, historical and ecological data to reconstruct historic landscapes. Instructor-Enforced Prerequisite: WR 121. 3 lecture hrs/wk. W

NR 251: Principles of Fish and Wildlife Conservation (3)

History of conservation and natural resource use; ecological and biological principles, and social and economic limitations of conservation; principles and practices of wildlife and fisheries management; role of research in management. Recommended Prerequisite: a previous course in Biology or Natural Resources. 3 lecture hrs/wk. W

NR 255: Field Sampling of Fish and Wildlife (3)

Introduction to sampling design and methods for quantifying aquatic and terrestrial resources in the Pacific Northwest with geographic emphasis on southwestern Oregon and northern California. Students will learn and apply standard field protocols used by the US Forest Service, the Bureau of Land Management, the Oregon Department of Fish and Wildlife, the Oregon Department of Environmental Quality, and other state and national land and resource management agencies. Recommended Prerequisite: any NR (Natural Resources) or BI (Biology) course. 2 lecture hrs/3 lab hrs/wk. S

NR 261: Recreation Resource Management (4)

Overview of recreation resource management including study of land and water resources used for outdoor recreation. The planning and management of natural and cultural resources for long-term resource productivity, with a focus on rural and wildlife areas of the forest, range and coast. 4 lecture hrs/wk. S

NR 295: Environmental Dispute Resolution (3)

This course examines natural resource-based conflicts on public and private lands, and presents strategies to resolve them. Analysis of root causes of environmental gridlock, including important values people hold towards the environment and development, and the tendency of groups and individuals to rely on traditional and well-understood methods for dispute resolution such as the courts and electoral and legislative processes. Course will focus on why disputants and the interested public find themselves increasingly frustrated by gridlock and dismayed at gridlock's effects on both environmental quality and local and regional economies, and how these frustrations are leading to the use of alternative resolution methods. 3 lecture hrs/wk. W



NURSING (NRS)

NRS 101: Nursing Assistant (9)

NRS 101: Nursing Assistant (9) A mandatory attendance course (164 hrs) designed to provide basic nursing skills for employment as a Certified Nursing Assistant once a student has successfully passed the CNA written and practical examination administered by the Oregon State Board of Nursing. The course consists of classroom instruction during weeks 1-7. The first 7 weeks includes lecture, observation, demonstration, and return demonstration of basic nursing skills, followed by 3 weeks of supervised clinical instruction. Course restrictions: Conviction of a felony and/or

drug usage or distribution may result in the Oregon State Board of Nursing withdrawing the privilege of writing the Certified Nursing Assistant examination. Prerequisites: A student must be 16 years of age. A copy of the applicant's placement test scores indicating reading skills at RD 090 OR higher, WR 090 or higher, and MTH 020 or higher. Alternatively, a copy of the applicant's transcripts (Official or Unofficial) that confirms that the applicant has completed courses at or above these placement scores. Background Checks: Students are required to complete and pass an Oregon State Background History check. On the first day of class, students must show evidence that they have mailed their fingerprints to the Oregon State Police that begins the process of a background clearance check. Failure to do so will result in the student being dropped from the class. NOTE: Students having questions relating to the past backgrounds should refer to both the OSBN (Oregon State Board of Nursing) at <http://tinyurl.com/mspo898> or DHS (Department of Human Services) at www.oregon.gov/business-services/chc/pages/index.asp. All students are required to have a TB screening test, the first injection of the three-part immunization series for Hepatitis B, and students born after 1956 must also provide official written proof of immunity against measles, (rubella, rubeola). Prior to the first day of clinical, students are required to complete and pass an Oregon State Background History Check prior to class start. 9 credits - 80 lecture, 80 clinical hrs F, W, S, Su

NRS 110: Foundations of Nursing in Health Promotion (9)

This course introduces the learner to framework of the OCNE curriculum. The emphasis on health promotion across the life span includes learning about self-health as well as patient health practices. To support self and patient health practices, students learn to access research evidence about healthy lifestyle patterns and risk factors for disease/illness, apply growth and development theory, interview patients in a culturally sensitive manner, work as members of a multidisciplinary team giving and receiving feedback about performance, and use reflective thinking about their practice as nursing students. Populations studied in the course include children, adults, older adults and the family experiencing a normal pregnancy. Includes classroom and clinical learning experiences. The clinical portion of the course includes practice with therapeutic communication skills and selected core nursing skills identified in the OCNE Core Nursing Skills document. Prerequisite: Acceptance into the nursing program. 5 lecture/seminar; 10 clinical hrs. and 2 hrs independent study/wk. F

NRS 111: Foundations of Nursing in Chronic Illness I (6)

This course introduces assessment and common interventions (including technical procedures) for patients with chronic illnesses common across the life span in multiple ethnic groups. The patient's and family's "lived experience" of the condition is explored. Clinical practice guidelines and research evidence are used to guide clinical judgments in care of individuals with chronic conditions. Multidisciplinary team roles and responsibilities are explored in the context of delivering safe, high quality health care to individuals with chronic conditions (includes practical and legal aspects of delegation). Cultural, ethical, legal and health care delivery issues are explored through

case scenarios and clinical practice. Case exemplars include children with asthma, adolescents with a mood disorder, adults with type 2 diabetes, and older adults with dementia. The course includes classroom and clinical learning experiences. Prerequisite: NRS 110. 3 lecture/seminar hrs, 9 clinical hrs/wk. W

NRS 112: Foundations of Nursing in Acute Care I (6)

This course introduces the learner to assessment and common interventions (including relevant technical procedures) for care of patients across the lifespan who require acute care, including normal childbirth. Disease/illness trajectories and their translation into clinical practice guidelines and/or standard procedures are considered in relation to their impact on providing culturally sensitive, patient-centered care. Includes classroom and clinical learning experiences Prerequisite: NRS 110. 3 lecture/seminar hrs, 9 clinical hrs/wk. S

NRS 221: Foundations of Nursing in Chronic Illness II and End-of-Life (9)

This course builds on NRS 111/211, Foundations of Nursing in Chronic Illness I. Chronic Illness II expands the student's knowledge related to family care giving, symptom management and end of life concepts. These concepts are a major focus and basis for nursing interventions with patients and families. Ethical issues related to advocacy, self-determination, and autonomy are explored. Complex skills associated with the assessment and management of concurrent illnesses and conditions are developed within the context of patient and family preferences and needs. Skills related to enhancing communication and collaboration as a member of an interprofessional team and across health care settings are further explored. Exemplars include patients with chronic mental illness and addictions as well as other chronic conditions and disabilities affecting functional status and family relationships. The course includes classroom and clinical learning experiences. (Can follow Nursing in Acute Care II and End-of-Life). includes classroom and clinical learning experiences. (Can follow Nursing in Acute Care II and End-of-Life). 5 lecture/seminar, 12 clinical hrs/wk. F

NRS 222: Foundations of Nursing in Acute Care II (9)

This course builds on Nursing in Acute Care I, focusing on more complex and/or unstable patient care conditions, some of which may result in death. These patient care conditions require strong noticing and rapid decision making skills. Evidence base is used to support appropriate focused assessments, and effective, efficient nursing interventions. Life span and developmental factors, cultural variables, and legal aspects of care frame the ethical decision-making employed in patient choices for treatment or palliative care for disorders with an acute trajectory. Case scenarios incorporate prioritizing care needs, delegation and supervision, and family and patient teaching for either discharge planning or end-of-life care. Exemplars include acute conditions affecting multiple body systems. Includes classroom and clinical learning experiences. (Can follow Nursing in Chronic Illness II and End-of-Life Care). Includes classroom and clinical learning experiences. (Can follow Nursing in Chronic Illness II and End-of-Life Care). 5 lecture/seminar, 12 clinical hrs/wk. W

NRS 224: Scope of Practice & Preceptorship for AAS Completion (9)

This course is designed to formalize the clinical judgments, knowledge and skills necessary in safe, registered nurse practice. Faculty/Clinical Teaching Associate/Student Triad Model provides a context that allows the student to experience the nursing role in a selected setting, balancing demands of professional nursing and lifelong learner. Analysis and reflection throughout the clinical experience provide the student with evaluative criteria against which they can judge their own performance and develop a practice framework. Includes seminar, self-directed study and clinical experience. Required for AAS and eligibility for RN Licensure. 2 lecture/seminar hrs/wk, 220 clinical hours. S

NRS 230: Clinical Pharmacology I (3)

This course introduces the theoretical background that enables students to provide safe and effective care related to drugs and natural products to persons throughout the lifespan. It includes the foundational concepts of principles of pharmacology, nonopioid analgesics, and antibiotics, as well as additional classes of drugs. Students will learn to make selected clinical decisions in the context of nursing regarding using current, reliable sources of information, understanding of pharmacokinetics and pharmacodynamics, developmental physiologic considerations, monitoring and evaluating the effectiveness of drug therapy, teaching persons from diverse populations regarding safe and effective use of drugs and natural products, intervening to increase therapeutic benefits and reduce potential negative effects, and communicating appropriately with other health professionals regarding drug therapy. Drugs are studied by therapeutic or pharmacological class using an organized framework. Prerequisite: Admission into Nursing program; BI 231, 232, 233 Anatomy and Physiology sequence; Corequisite: NRS 111. 3 lecture/seminar hrs/wk. W

NRS 231: Clinical Pharmacology II (3)

This sequel to Clinical Pharmacology I continues to provide the theoretical background that enables students to provide safe and effective nursing care related to drugs and natural products to persons throughout the lifespan. Students will learn to make selected clinical decisions in the context of nursing regarding using current, reliable sources of information, monitoring and evaluating the effectiveness of drug therapy, teaching persons from diverse populations regarding safe and effective use of drugs and natural products, intervening to increase therapeutic benefits and reduce potential negative effects, and communicating appropriately with other health professionals regarding drug therapy. The course addresses additional classes of drugs and related natural products not contained in Clinical Pharmacology I. Prerequisite: NRS 230. Corequisite: NRS 112. 3 lecture/ seminar hrs/wk. S

NRS 232: Pathophysiological Processes I (3)

This course introduces pathophysiological processes that contribute to many different disease states across the lifespan and human responses to those processes. It includes the foundational concepts of cellular adaptation, injury, and death; inflammation and tissue healing; fluid and electrolyte imbalances; and

physiologic response to stressors and pain, as well as additional pathophysiological processes. Students will learn to make selective clinical decisions in the context of nursing regarding using current, reliable sources of pathophysiology information, selecting and interpreting focused nursing assessments based on knowledge of pathophysiological processes, teaching persons from diverse populations regarding pathophysiological processes, and communicating with other health professionals regarding pathophysiological processes. Registration-Enforced Prerequisite: BI 231, 232, 233, Anatomy and Physiology sequence; Corequisite: NRS 111. 3 lecture/seminar hrs/ wk. W

NRS 233: Pathophysiological Processes II (3)

This sequel to Pathophysiological Processes I continues to explore pathophysiological processes that contribute to disease states across the lifespan and human responses to those processes. Students will learn to make selected clinical decisions in the context of nursing regarding using current, reliable sources of pathophysiology information, selecting and interpreting focused nursing assessments based on knowledge of pathophysiological processes, teaching persons from diverse populations regarding pathophysiological processes, and communicating with other health professionals regarding pathophysiological processes. The course addresses additional pathophysiological processes not contained in Pathophysiological Processes I. Registration-Enforced Prerequisite: NRS 232. Corequisites: NRS 112. 3 lecture hrs/wk S

NRS 280: Cooperative Work Experience: Nursing (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

OFFICE ADMINISTRATIVE ASSISTANT (OA)

OA 110: Alphabetic Keyboarding (2)

This course teaches alphabetic keyboarding skills to students with no previous keyboarding experience. Students will develop touch keyboarding skill on the alphabetic keyboard and will develop proofreading skills. 4 lecture/lab hrs/wk. F

OA 115: Administrative Office Professional (3)

This course introduces students to the administrative office professional career. Multiple aspects of the office environment are covered, including time management, customer service, communication, meeting and travel planning, stress management, technology, working with others, and career exploration. Students create a growth plan with the objective of moving towards an entry-level career. 3 lecture hrs/wk. F

OA 116: Records Management (2)

In this course, students gain proficiency in alphabetic, subject, geographic, and numeric filing methods. Students will also learn basic records management concepts, such as classification, records life cycle, the records management plan, storage and retrieval, and security. 1 lecture, 2 lecture/lab hrs/wk. F

OA 123: Formatting (4)

A course that builds and improves upon basic keyboarding skills acquired in OA 124 and introduces the basics of word processing. Students will format business documents including letters, memos, tables, and simple reports. Document production timings and straight-copy timings are used to measure skill improvement. Registration-Enforced Prerequisite: OA 124 or instructor permission; Instructor-Enforced Prerequisite: Keyboarding speed 35 wpm or more. 3 lecture, 2 lecture/lab hrs/wk. F, W

OA 124A: Keyboarding Skill Enhancement (3)

An individualized speed-building course for students who already know the keyboard without looking. The course is designed to build speed while maintaining accuracy and using correct touch-typing technique. Computer software provides skill building exercises and progress assessments. Instructor enforced. 6 lecture/lab hrs/wk. W

OA 128: Editing for Business (3)

A comprehensive, activity-oriented course designed to sharpen proofreading and editing skills. Reviews and applies the rules governing punctuation, sentence structure, grammar, and correct word usage in order to create professional business documents. The course will also provide a spelling review. Instructor-Enforced Prerequisites: Basic keyboarding and word processing skills. 2 lecture, 2 lecture/lab hrs/wk. F, W

OA 131: Ten-Key Calculator (1)

Introductory course designed to familiarize a student with the functions of the ten-key calculator and to develop speed and accuracy when operating the machine by touch. Students will also develop speed and accuracy on the computer keypad. 2 lecture/lab hrs/wk. F

OA 225: Document Processing (3)

Covers the preparation of business documents from pre-recorded dictation using transcription equipment and word processing software. Reviews pre-transcription skills for spelling, word usage, grammar, and punctuation, which are essential for successful completion of this course. 2 lecture, 3 lab hrs/wk. W

OA 245: Office Administration (1)

This is a professional development course designed for the Office Technology AAS students. It should be taken the term prior to graduation. Students will engage in activities and assignments that will make them better prepared for meeting the expectations of the workplace. Registration-Enforced Corequisite or Prerequisite: OA 123 and CWE 161. 1 lecture hr./wk. W

OA 250: General Office Procedures (3)

An advanced office procedures course in which the student learns to employ acceptable techniques in handling typical administrative level secretarial duties such as planning and organizing meetings, making travel arrangements, helping with reports, and making decisions. Prerequisite: OA 115, OA 116, OA 124, CIS 120. 2 lecture, 3 lab hrs/wk. S

OA 260: Principles of Office Management (3)

This course is designed to familiarize students with principles used in setting up and managing an office: including organization,

problem-solving, communicating, human resources, office systems, and office environments; assists in developing techniques for planning, organizing, and simplifying work. 3 lecture hrs/wk. S

OA 280A: Cooperative Work Experience: Administrative Assistant/Office Assistant (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. Prerequisite: Second-year standing; instructor approval. 3-39 lab hrs/wk. 33 hrs lab = 1 credit. F, W, S, Su

OA 280C: Cooperative Work Experience: Administrative Medical Assistant (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. Prerequisite: Second year standing; instructor approval. 3-39 lab hrs/wk. 3 3 hrs lab = 1 credit. F, W, S, Su

OA 280D: Cooperative Work Experience: Clinical Medical Assistant (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. Registration-Enforced Prerequisite: MED 124 with a grade of C or better; Instructor-Enforced Prerequisite: proof of the following prior to enrollment: Hep B and MMR vaccinations and a PPD test; proof of a clean background history check. 3-39 lab hrs/wk. 33 hrs lab = 1 credit. F, W, S, Su

PHYSICAL EDUCATION & OUTDOOR RECREATION (PE)

PE 1850A: Advanced OCR (1)

3 lab hrs/wk. F, W, S

PE 1850C: Physical Conditioning OCR (1)

3 lab hrs/wk. F, W, S

PE 1850S: OCR Strategy (1)

3 lab hrs/wk. F, W, S

PE 185AB: Advanced Baseball (1)

3 lab hrs/wk. F, W, S

PE 185BA: Advanced Basketball Women – Tm (1)

3 lab hrs/wk. F, W, S

PE 185BB: Advanced Basketball Men – Tm (1)

3 lab hrs/wk. F, W, S

PE 185BM: Physical Conditioning – Mens Basketball (1)

3 lab hrs/wk. F, W, S

PE 185BS: Basketball Strategy Women – Tm (1)

3 lab hrs/wk. F, W, S

PE 185BT: Basketball Strategy Men – Tm (1)

3 lab hrs/wk. F, W, S

PE 185BW: Physical Conditioning – Women’s Basketball (1)

3 lab hrs/wk. F, W, S

PE 185FA: Fitness Center – Aerobic (1)

3 lab hrs/wk. F, W, S, Su

PE 185FB: Fitness Center – Basic (1)

3 lab hrs/wk. F, W, S, Su

PE 185FS: Fitness Center – Strength (1)

3 lab hrs/wk. F, W, S, Su

PE 185G: Beginning Golf (1)

3 lab hrs/wk. F, S

PE 185L: Beginning Bowling (1)

3 lab hrs/wk. F, S

PE 185PB: Physical Conditioning, Baseball (1)

3 lab hrs/wk. F, W, S

PE 185QB: Beginning Swim (1)

3 lab hrs/wk. F, S

PE 185QF: Swim Fitness (1)

3 lab hrs/wk. F, S

PE 185QI: Intermediate Swim for Fitness (1)

3 lab hrs/wk. F, S

PE 185SB: Baseball Strategies (1)

3 lab hrs/wk. F, W, S

PE 185TA: Advanced Track and Field (1)

3 lab hrs/wk. F, W, S

PE 185TC: Physical Conditioning Track and Field (1)

3 lab hrs/wk. F, W, S

PE 185TI: Intermediate Tennis (1)

3 lab hrs/wk. F, S

PE 185TN: Beginning Tennis (1)

3 lab hrs/wk. F, S

PE 185TS: Track and Field Strategies (1)

3 lab hrs/wk. F, W, S

PE 185V: Beginning Volleyball (1)

3 lab hrs/wk. F, W, S

PE 185VA: Advanced Volleyball – Tm (1)

3 lab hrs/wk. F, W, S

PE 185VS: Volleyball Strategy – Tm (1)

3 lab hrs/wk. F, W, S

PE 185VW: Physical Conditioning – Women’s Volleyball (1)

3 lab hrs/wk. F, W, S

PE 185W: Weight Training (1)

3 lab hrs/wk. F, W, S

PE 185 WC: Physical Conditioning Wrestling (1)

3 lab hrs/wk. F, W

PE 185 WJ: Walk, Jog, and Run (1)

3 lab hrs/wk. F, W, S

PE 185 WS: Wrestling Strategy (1)

3 lab hrs/wk. F, W, S

PE 185 WT: Advanced Wrestling (1)

3 lab hrs/wk. F, W, S

PE 185 XA: Advanced Cross Country (1)

3 lab hrs/wk. F, W, S

PE 185 XC: Physical Conditioning Cross Country (1)

3 lab hrs/wk. F, W, S

PE 185 XS: Cross Country Strategy (1)

3 lab hrs/wk. F, W, S

PE 185Y: Yoga (1)

3 lab hrs/wk. F, W, S

PE 185YI: Yoga Intermediate (1)

3 lab hrs/wk. F, W, S

PE 291: Lifeguarding (2)

Teaches students to become a certified Lifeguard, specific to pool settings and non-surf open water. First Aid and CPR will be included. 5 two-hour classroom sessions, 6 five-hour pool sessions. Instructor-Enforced Prerequisites: minimum 15 years of age, Intermediate level swimmer. 1 lecture, 3 lab hrs/wk. S

PHYSICS (PH)

PH 201, 202, 203: General Physics (5,5,5)

Algebra-based physics including topics: mechanics, fluids, waves, thermodynamics, electricity and magnetism, light and optics.

PH 201: Units, vectors, motion, dynamics, energy, and momentum. Registration-Enforced Prerequisite or Corequisite: MTH 111 or equivalent. F

PH 202: Rotation, gravitation, equilibrium, fluids, and thermodynamics. Registration-Enforced Prerequisite: PH 201. W

PH 203: Waves, sound, electricity and magnetism, light, and optics. Registration-Enforced Prerequisite: PH 202. S

Recommended for pre-professional health care programs. Courses must be taken in sequence, or with consent of instructor. 4 lecture, 3 lab hrs/wk.

PH 211, 212, 213: General Physics w/Calculus (5,5,5)

Calculus-based physics including mechanics, gravitation, fluids, harmonic motion, electricity and magnetism, light and optics, and thermodynamics.

PH 211: Units, vectors, motion, dynamics, energy, and momentum. Registration-Enforced Prerequisite or Corequisite: MTH 251. F

PH 212: Rotation, rotational dynamics, equilibrium, elasticity, fluids, oscillations, and waves. Registration-Enforced Prerequisite: PH 211. Registration-Enforced Prerequisite or Corequisite: MTH 252. W

PH 213: Sound, electric forces and electric fields and potentials, capacitance, electronics, magnetism, light and optics, and thermal physics. Registration-Enforced Prerequisite: PH 212. S

Note: PH 201-203 recommended for pre-professional health care programs. Courses must be taken in sequence, or with consent of instructor. 4 lecture, 3 lab hrs/wk.

POLITICAL SCIENCE (PS)

PS 201, 202, 203: U.S. Government (3,3,3)

A three-term course that includes the fundamental institutions vocabulary, theories, and analytical methods of political science. Students use the Internet to study national interest groups, U.S. Supreme Court cases, Oregon's state legislative process and more. The courses do not need to be taken in sequence.

PS 201 focuses on the culture, values and political participation practices that sustain and continuously modify American politics. Topics include political ideologies and political parties. 3 lecture hrs/wk. F

PS 202 focuses on the national policy-making process, especially the role of the judicial branch. Topics include civil rights and civil liberties. PS 201 and 202 should be taken in sequence. 3 lecture hrs/wk. W

PS 203 concerns state and local governments and current policy issues. Guest speakers add experiential perspectives to the reading and Internet research. This course can be taken separately, without taking PS 201 or 202, or as the third course in the sequence. Successful completion of WR 121 is recommended prior to taking this course. 3 lecture hrs/wk. S

PS 205: International Relations (3)

This course is a one-term survey of contemporary international political and economic issues in historical perspective. The course emphasizes reading, group discussion, short essays, and some Internet research. It is especially relevant to career preparation for business, political science, and secondary education majors, as well as for international relations majors.

Students should not attempt to take this course until they have successfully completed WR 121, 122, and 123. 3 lecture hrs/wk. S (Not offered every year).

PS 280: Cooperative Work Experience: Political Science (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

PSYCHOLOGY (PSY)

PSY 101: Psychology of Human Relations (3)

The purpose of this course is to enhance students' understanding of the variety and complexity of human interactions. The focus is on the practical application of psychology in everyday situations; topics include self-concept, perception, personality development, cultural diversity, conflict resolution, emotions, stress, interpersonal communication, workplace success, and behavioral change. 3 lecture hrs/wk. F, W, S, Su

PSY 130: Understanding Children's Behavior (2)

An introduction to the basic principles of understanding child behavior using the psychology of Adler and Dreikurs as a reference. Discussion and practice of ideas presented including methods of

discipline; effective communication; conflict resolution; sexuality; developing healthy self-concepts; and a more democratic approach to living. 2 lecture hrs/wk. S (Not offered every year)

PSY 201: General Psychology (3)

Studies human behavior through the topics of genes, brain function, nervous and endocrine systems, body rhythms, consciousness, sensation, perception, and scientific methodology. Recommended Prerequisite: Placement by approved measure into WR 115. 3 lecture hrs/wk. F, W, S, Su

PSY 202: General Psychology (3)

The study of human behavior through the topics of learning, memory, thinking, intelligence, motivation, emotion, and human development. May be taken concurrently with PSY 203. 3 lecture hrs/wk. W, S, Su

PSY 203: General Psychology (3)

The study of human behavior through the topics of health and stress, personality, socio-cultural forces, psychological disorders, and approaches to treatment. May be taken concurrently with PSY 202. 3 lecture hrs/wk. S, Su

PSY 231: Human Sexuality (3)

Introduces the biological, social, and psychological components of human sexual functioning. Topics such as physiology, attitudes, emotions, and myths are considered, emphasizing relationship perspectives. The focus is on recognizing the range of human sexual behaviors over time, across cultures, and within groups. 3 lecture hrs/wk. S

PSY 239: Abnormal Psychology (3)

This course bridges the gap between mental health concepts introduced in PSY 203, General Psychology, and the more in-depth analysis of psychopathology issues covered in the typical upper division psychology class. The following topics will be presented: defining "abnormal"; a brief historical and cross-cultural overview of abnormal behavior; basic data regarding the incidence and classification of emotionally disturbed persons; and an introduction to common treatments for psychological difficulties. Registration-Enforced Prerequisite: PSY 201, 202, and 203 or instructor permission. 3 lecture hrs/wk.

PSY 280: Cooperative Work Experience: Psychology (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

READING (RD)

RD 090: College Textbook Reading (3)

This course develops the analytical reading skills necessary for college-level work. Emphasis is on development of methods for analyzing and critically evaluating college material, development of college-level vocabulary, and development of personal, strategic methods of reading. Registration-Enforced Corequisite: Enrollment in Practicing Success cohort. 3 lecture hrs/wk. F, W, S

RD 115: Critical Reading Strategies (3)

This course is designed to develop Critical Reading Skills for success in reading College level textbooks. Some of the skills covered are vocabulary, synthesizing long readings, inference, and analyzing arguments. Students will apply these critical reading skills to successfully comprehend and evaluate college level textbooks and the internet. Registration-Enforced Prerequisite: RD 090 with a grade of C or better or placement test. 3 lecture hrs/wk. F, W, S

SUPERVISION (SDP)

SDP 109: Elements of Supervision (3)

An introductory course dealing with the problems and skills of the first-level supervisor. Attention is given to management communications, motivating employees, effective leadership styles, training, and organizing and decision-making techniques. 3 lecture hrs/wk. F, S

SDP 113: Human Relations for Supervisors (3)

This course analyzes the mutual relationships of organizational employees, customers, and other outside persons. Studies and provides critical thinking about teamwork, coaching, counseling, and mutual respect, personal integrity, and acceptance of others. Students will gain insight into the human and organizational factors that influence the workplace beyond the traditionally measured outcomes of performance, production, and profitability. 3 lecture hrs/wk. F

SDP 201: Coaching in the Workplace (3)

This course is designed to help supervisors and other team leaders define the effective coach, build a coaching foundation, and plan a coaching strategy. Employee personality types, trust building, and healthy coach-employee relationships will be addressed. Effective questioning strategies as information-gathering tools will also be addressed. 3 lecture hrs/wk. S

SDP 204: Labor and Management Relations (3)

This course provides students with the history of labor and management relations as a way to understand the current collective bargaining process. The role of collective bargaining is examined in order to understand how the strategic goals of both labor and management influence the process. The history of collective bargaining, the role of each participant, and critical thinking skills related to modern labor and management roles are emphasized. 3 lecture hrs/wk. W

SDP 205: Management and Leadership Dynamics (3)

This is a course designed to provide students with current supervisory, leadership and management information using actual companies and hiring managers. Using business cases studies, classroom lectures from actual business owners and managers, along with current workplace analysis, students will gain insights and understanding for the dynamic nature of supervision and management. Students will have the opportunity to study, understand, and consider the various styles of workplace leadership which exist and from whom they may seek future job opportunities. 3 lecture hrs/wk. S (offered every other year) S

SDP 208: Human Resources for Supervisors (3)

This course prepares students for real issues and current

challenges in human resource management. Problem-solving and decisionmaking skills are developed and emphasized. 3 lecture hrs/wk. W

SDP 215: Equal Employment Opportunity (3)

This course reviews the United States Equal Employment Opportunity (EEO) laws, regulations, and guidelines that affect first-line supervisors. Beginning with a Title VII of the 1964 Civil Rights Act and moving through to the 2008 Genetic Information Nondiscrimination Act, the course covers all eight federal nondiscrimination laws. The role of the U.S. Equal Employment Opportunity Commission (EEOC) is reviewed along with the EEOC website. Case studies provide context to the laws and guidelines. Students achieve the knowledge necessary to maintain an EEO compliant workplace. 3 lecture hrs/wk. W

SDP 223: Employee Development and Performance Management (3)

This course will examine the modern role of employee performance management that has replaced the historical concept of employee reviews and job-based measurement standards. Students will analyze the supervisor's role in the total employee development process. An emphasis is placed on the use of employee development within the organizational strategic plan, performance measurement, along with a study of reward systems and legal issues. Upon completion of the course, students will be prepared to construct an employee development plan. 3 lecture hrs/wk. S

SOCIOLOGY (SOC)

SOC 204: Introduction to Sociology (3)

Sociological theories and theorists, as well as research and scientific methods, are examined along with the problem of how societies teach their children to become members of the group, and how adults cope with life's passage. Social structure, social patterns, deviance and social control, and the impact and meaning of culture, are also explored. While the primary focus of the course is our own society, several other societies are studied for comparison. The first term of a three-term sequence; each may be taken independently. 3 lecture hrs/wk. F, W

SOC 205: Institutions and Social Change (3)

An analysis of the major institutions in society including family, religion, law and politics, and economics is offered during this term. The focus is on modern American society, but other societies will be explored and used for comparison. 3 lecture hrs/wk. F, S

SOC 206: Social Problems and Issues (3)

Social issues and social problems are explored using a critical thinking approach. Examples are from sociologists and journalists, and include problems such as poverty, drugs, crime, urban affairs, public health, gender issues. 3 lecture hrs/wk. F, S

SOC 207: Juvenile Delinquency (3)

The concepts and theories of delinquency: childhood development, delinquency, and status offenses, the nature and extent of delinquency, and individual, sociological, and developmental views of delinquency. The social, community, and environmental influences on delinquency. Effect of the

family, peers, schools and drug use on delinquency. The juvenile system: history and development of juvenile justice, police work with juveniles, the juvenile court process, and juvenile corrections. Primary, secondary, and tertiary delinquency prevention efforts also will be defined. NOTE: This course is enhanced with online components. Students will need regular access to an Internet-connected computer. 3 lecture hrs/wk. W

SOC 213: Race, Class, & Ethnicity (3)

Ways societies tend to divide themselves into ranks of more and less privileged members. Includes racial and ethnic groups, aging in our own and other societies, and sex and gender roles in their contemporary and historical contexts. Prerequisite: SOC 204 or 205 recommended. 3 lecture hrs/wk. S

SOC 225: Social Aspects of Addiction (3)

This course examines specific problems related to the social implications of addiction. The basic facts and effects on individuals, their families, and society are explored. Personal pathologies that are precursors to drug and alcohol addiction will be reviewed including mental illness, abusive background, and suicidal ideations. 3 lecture hrs/wk. S

SOC 280: Cooperative Work Experience: Sociology (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33. F, W, S, Su

SOIL SCIENCE (SOIL)

SOIL 205: Soil Science (3)

This course will provide information and experience in soil development, physical properties of soil, soil organisms, naming of soils, and how land management practices affect soil quality and sustainability. 3 lecture hrs/wk. S

SOIL 206: Soil Science Lab (1)

Laboratory exercises and field trips designed to develop student competency in soil processes, description, analysis, and assessment with a particular emphasis on the role of soils in managed and unmanaged forest ecosystems. Registration-Enforced Prerequisite/Corequisite: SOIL 205. 3 lab hrs/wk. S

SPEECH (SP)

SP 105: Listening (3)

Because listening is important in our personal as well as professional relationships, students find this course particularly interesting and relevant. In this course, students will examine the effects of listening style on personal relationships and public interactions. Both theoretical and applied perspectives will be examined. However, the emphasis will be on skill application. Through exercises and assignments, students will also have an opportunity to assess their own listening strengths and weaknesses with opportunities to improve proficiency. Recommended Prerequisites: WR 095 with a grade of C or better

or placement scores of 70 or above in writing; AND RD 090 with a grade of C or better or placement scores of 85 or above in reading. 3 lecture hrs/wk. W, S, Su

SP 111: Fundamentals of Public Speaking (4)

Preparation and delivery of effective extemporaneous communications. Primary emphasis on content, organization, audience adaptation, delivery, and listening. Recommended Prerequisites: WR 095 with a grade of C or better or placement by approved measures; AND RD 090 with a grade of C or better or placement by approved measure. 4 lecture hrs/wk. F, W, S, Su

SP 112: Persuasive Speech (3)

Study of theories and practices of persuasion. Includes preparation and delivery of persuasive messages to individuals and groups. Emphasis on becoming a responsible persuader and a critical consumer of persuasion. Recommended Prerequisites: WR 095 with a grade of C or better or placement by approved measure; AND RD 090 with a grade of C or better or placement by approved measure. 3 lecture hrs/wk. W, S

SP 218: Interpersonal Communication (3)

An investigation of the theory and practice of interpersonal communication through participation in group discussions, readings, and written exercises. Attention to perception, language, sharing, listening, decision making, conflict, non-verbal, and male/female communication. Emphasis is on developing attitudes and skills applicable to work, social, civic and intercultural situations. Registration-Enforced Prerequisites: WR 095 with a grade of C or better or placement by approved measure; AND RD 090 with a grade of C or better or placement by approved measure. 3 lecture hrs/wk. W, S

SP 219: Small Group Discussion (3)

Study of theory and practice of small group communication by participation in group discussions, readings, and written exercises. Attention to organization and conduct of problem-solving groups and learning. Emphasis is on: (1) learning how to enhance group communication, to deal effectively with conflict and to apply problem-solving techniques to a task-oriented group setting, and (2) developing attitudes and skills applicable to leadership and participation in work and civic committees. Recommended Prerequisites: WR 095 with a grade of C or better or placement scores of 70 or above in writing; AND RD 090 with a grade of C or better or placement by approved measure. 3 lecture hrs/wk. W, S

SP 237: Gender Communication (3)

An examination of similarities and differences in male and female communication styles and patterns. Particular attention given to the implications of gender as social construct upon perception, values, stereotyping, language use, nonverbal communication, and power and conflict in human relationships. Discussion of influence of mass communication upon shaping and constructing male and female sex roles. Course fulfills block transfer and cultural diversity requirements and is transferable to state four-year university. 3 lecture hrs/wk. F

SP 280: Cooperative Work Experience: Speech (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

SPANISH (SPAN)

SPAN 101- First Year Spanish (4)

Students will begin to build the basic skills of listening, speaking, reading and writing in Spanish, with a special focus on communicating. Students will be introduced to the diversity of the Spanish-speaking world. Registration-Enforced Prerequisite: WR 115 with a grade of C or better. 4 lecture hrs/wk. F, W

SPAN 102: First-Year Spanish (4)

Students will further develop the basic skills of speaking, listening, reading and writing. The course emphasizes oral communication and listening comprehension within a culturally authentic context. Students will deepen their awareness of the Spanish-speaking world. Registration-Enforced Prerequisite: WR 115 and SPAN 101 with a grade of C or better. 4 lecture hrs/wk. W, S

SPAN 103: First-Year Spanish (4)

Students will practice active communication while strengthening speaking, reading, writing, and listening skills within a culturally authentic context. Through the study of literature and other media, students will deepen their awareness of the Spanish-speaking world. Registration-Enforced Prerequisite: WR 115 and SPAN 102 with a grade of C or better. 4 lecture hrs/wk. S, Su

SPAN 111: Conversational Spanish (2)

An intensive conversational Spanish, with reading and written exercises designed to help students acquire an accurate and fluent use of Spanish. Registration-Enforced Prerequisite: WR 115 and SPAN 101 or equivalent. 2 lecture hrs/wk. W (not currently offered)

SPAN 120: Spanish in the Workplace: (4)

These courses offer introductory Spanish language skills and cross-cultural communication as applied to several workplace environments. Issues pertinent to the workplace such as health, safety, problem-solving and teamwork are emphasized. 4 lecture hrs/wk. (not currently offered)

SPAN 121: Spanish in the Workplace for Viticulture (4)

This course will introduce students to basic grammar concepts and vocabulary pertinent to the field of Viticulture and Enology. Topics will be presented and discussed in a culturally authentic context exploring the realities of the industry in the United States today. Through active classroom participation, students will practice basic Spanish phrases needed to explain the purpose, procedures, and evaluation of planting, harvesting, and pruning. In addition, students will learn vineyard specific vocabulary and phrases to effectively carry out safe protocols. 4 lecture hrs/wk. W (not currently offered)

SPAN 122: Spanish in the Workplace for Safety and Emergency Personnel (4)

This course will introduce students to basic Spanish grammar concepts and vocabulary pertinent to Safety and Emergency Personnel. Topics will be presented and discussed in an authentic context exploring the cultural interactions within these occupations. Great emphasis will be placed on understanding cultural differences between the Hispanic and the non-Hispanic community. 4 lecture hrs/wk. (not currently offered)

SPAN 201: Second-Year Spanish (4)

This course promotes intensive development of oral and written Spanish language skills. Students will review and expand on first-year structural patterns and vocabulary by integrating listening, speaking, reading, and writing skills. In-depth exploration of cultures is offered through the use of authentic materials from the Spanish-speaking world. Conducted in Spanish. Registration-Enforced Prerequisite: SPAN 103 with a grade of C or better. 4 lecture hrs/wk. F

SPAN 202: Second-Year Spanish (4)

This course continues an in-depth development of oral and written Spanish language skills with further emphasis on vocabulary and complex grammatical concepts. In-depth exploration of cultures is offered through the use of authentic materials from the Spanish-speaking world. Conducted in Spanish. Registration-Enforced Prerequisite: SPAN 201 with a grade of C or better. 4 lecture hrs/wk. W

SPAN 203: Second-Year Spanish (4)

This course promotes continued development of Spanish language skills through in-depth oral activities and discussion of themes, analysis of current events relating to the Spanish-speaking world; and the use of written materials as a means of communication. In-depth exploration of cultures is offered through use of authentic materials from the Spanish-speaking world. Conducted in Spanish. Registration-Enforced Prerequisite: SPAN 202 with a grade of C or better. 4 lecture hrs/wk. S

SPAN 211: Conversational Spanish (2)

This course provides students with an opportunity for intensive speaking and listening practice to improve oral/aural communication skills in Spanish. Students will learn new vocabulary and expressions through reading and listening activities from culturally authentic sources representative of the Hispanic world. Students will apply these concepts to communicate in conversations, interviews, and role-play skits with other students. 2 lecture hrs/wk. F, W, S

SURVEYING (SUR)

SUR 161: Surveying I (4)

Course includes the fundamental concepts of plane surveying including the theory of measurements; systematic and random errors; distance and angle measurement using total stations and differential leveling. Course also includes calculation of bearings, azimuths, coordinates, area, and traverse adjustments with an introduction to horizontal and vertical curve computations. Registration-Enforced Corequisite: MTH 112, with grade of C or better or instructor approval. 2 lecture, 4 lecture/lab hrs/wk. S

SUR 162: Surveying II (4)

Digital theodolites and data collectors, instrument testing and observational error analysis. Theory of leveling. Solar observation and computation. E.D.M. use and calibration. Field labs including solar observations, traversing, leveling, and horizontal curve layout. Introduction to COGO software. Registration-Enforced Prerequisite: SUR 161, with grade of C or better. 2 lecture, 6 lab hrs/wk. F

SUR 163: Route Surveying (4)

Laboratory intensive project overview including horizontal and vertical control for preliminary location and construction surveys for a secondary road. Instruction in basic elements of horizontal and vertical route alignment and layout. Determination of earth work quantities. CAD drafting of plan, profile and cross-sections. Registration-Enforced Prerequisite: SUR 162 with a grade of C or better. 2 lecture, 6 lab hrs/wk. W

SUR 242: Land Descriptions & Cadastre (3)

Real property descriptions and land record systems. Emphasis on interpreting and writing land descriptions, research in land records and multi-purpose cadastre. Registration-Enforced Prerequisite: SUR 161 with a grade of C or better. 3 lecture hrs/wk. S

SUR 280: Cooperative Work Experience: Surveying (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of the various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year, except for students taking Occupational Skills Training (OST), which has a limit of 24 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

THEATRE ARTS (TA)

TA 141: Acting 1 (3)

Acting 1 focuses on developing an actor's repertoire of warming up the body, mind, and voice and providing the actor with the tools to analyze a script, audition for a role, rehearse and then present a personalized performance. By articulating the actor's critical voice through production and performance critiques, the inexperienced student emerges from Acting 1 with basic acting skills for realist theatre. Required for theatre major transfers and open to non-majors. 3 lecture hrs/wk. F

TA 142: Acting 2 (4)

Acting 2 continues the beginning acting series with further development of an actor's repertoire of using the body, mind, and voice to create dramatic characterization. Students will learn to use text and dialogue analysis in a plays given circumstances. Required for theatre major transfers and open to non-majors. Registration-Enforced Prerequisite: TA 141 with a C or better or faculty permission. 4 lecture hrs/wk. W

TA 143: Acting 3 (4)

Acting 3 continues the beginning acting series with further development of an actor's resources of using the body, mind, and voice to create characterization within realist theatre. Students

focus on the inner life of a character and the technique involved to replicate a performance repeatedly. This course polishes the process for characterization and bridges into more complex scene work with multiple scene partners. The actor continues to develop a critical voice by reviewing productions. Required for theatre major transfers and open to non-majors. Prerequisite: TA 141 & 142 with a C or better. 4 lecture hrs/wk. S

TA 211: Introduction to Set Design (3)

An introduction to the principles and practices of scenic design. With an emphasis on conceptual ideas, students conduct research for shows in various historical periods and develop the techniques involved to make perspective drawings, renderings, and model buildings. Students prepare set designs that effectively communicate their artistic concepts and practical applications. 2 lecture, 3 lab hrs/wk. S

TA 213: Introduction to Lighting Design (3)

An introduction to the principles and practices of lighting design. With an emphasis on conceptual ideas, students conduct research for shows in various historical periods and develop the techniques involved with basic stage lighting. Students learn about lighting instruments, how color affects the audience and players, and how to effectively communicate their designs. 2 lecture, 3 lab hrs/wk. W (offered every other year)

TA 241: Acting 4 (4)

Advanced Acting-Classics explores acting in classical styles, from ancient Greek works to Moliere and Shakespeare. Textual analysis and research of the time periods. Develop connections to the material that cultivate a truthful performance with complex psychology and appropriate physically. The actor continues to develop a critical voice to reviewing productions. Open to non-majors. Prerequisite: Acting 1, 2, and 3. 4 lecture hrs/wk. F

TA 242: Acting 5 (4)

Advanced Acting-Clowning explores the art of performance through physical expression. By developing their sense of play through improvisation, situational comedy, and spontaneity, students will emerge with a strong sense of playfulness and confidence. Open to non-majors. 3 lecture hrs/wk. W

TA 243: Acting 6 (4)

Acting 6 engages actors in exploring contemporary or social issues through the lens of theatre. Actors develop and present pieces from community-based productions. Students learn about American theatre companies specializing in this type of theatre. Open to non-majors. Prerequisites: TA 141, 142, 143. 3 lecture hrs/wk. S

TA 253: Performance (2)

Rehearsal and performance in a UCC theatre production. Students engage in a staged theatrical process, from auditions to rehearsing to performing the show. Students gain insight on professional standards in theatre, as well as the expectations from the current performance industry. Students must audition at the beginning of the quarter to be approved for this course. Prerequisite: Instructor approval. 6 lab hrs/wk. F, W, S

TA 256: Musical Theatre Workshop (3)

A course introducing the techniques used in musical theatre to tell a story through song. Students work on songs from standard musical theatre repertoire and engage in workshops that focus on communicating the story, character motivation, finding intention in the music, and freeing the sound from the body with relaxation. 3 lecture hrs/wk. W

TA 261: Introduction to Costume Design (3)

An introduction to the principles and practices of costume design. With an emphasis on conceptual ideas, students conduct research for shows in various historical periods and develop the techniques involved to make perspective drawings, renderings, and costume plots. Students prepare costume designs that effectively communicate their artistic concepts and practical applications. 2 lecture/3 lab hrs/wk. F

TA 265: Production (1-2)

Participate as a technical or production team member for a UCC theatre production. Students explore appropriate positions such as stage manager, production assistant, lighting crew, costume or set construction, stage crew, or design assistants. Positions are selected by the Director of Theatre; students must submit interest before the end of Week 1 of each quarter. Required for all Theatre Arts majors, to be repeated up to three times for transfer credits. 3-6 lab hrs/wk. F, W, S

TA 271: Introduction to Theatre (4)

An examination of theatre arts, how it has evolved, and its value to communities. The course explores theatre's evolution with society and the effects it has in contemporary settings. From script to performance, the course dissects the many elements of theatre artistry, process and production. 4 lecture hrs/wk. F

TA 280: Cooperative Work Experience: Theatre (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

TRUCK DRIVING (TTL)

TTL 101: Introduction to Professional Truck Driving and Logistics (4)

This course is part of the statewide Professional Truck Driver Certificate program. Introduction to logistics and commercial vehicle operation, covering control systems, coupling procedures, cargo handling and pre-trip inspections. Covers regulations and requirements for CDL, speed management, road conditions, and accident scene management.

Safety is a key component. Prerequisite: Although applicants can take the class at age eighteen, however, drivers must be 21 to cross state lines. All applicants must have a clear driving record for the past five years; complete and pass a DOT physical and Drug Screen. 40 lecture hrs/wk. 1 week course.

TTL 121: Practical Applications in Professional Truck Driving and Logistics (6)

This course is part of the statewide Professional Truck Driver Certification program. Demonstration of skill development related to safe commercial vehicle operation. In-depth coverage of logistics business processes and communication skills development. Covers delivery basics, including backing, visual search, shifting, turning, space and speed management. 120 lecture/lab hrs. (3 week course.)

TTL 141: Transportation and Logistics Customer Service Skills (1-3)

This course is part of the statewide Professional Truck Driver Certification program. Focusing on building the necessary skills for outstanding customer service, effective listening, conflict resolution and communication, identifying internal and external customers, learning how to reduce/eliminate potentially unproductive interactions, and create positive experiences for all customers. 10 - 30 lecture hrs/wk. 1 week course.

TTL 281: CWE: Transportation (6)

The Transportation Cooperative Work Experience (CWE) ensures that additional truck driving experience necessary for excellent and reliable driving skills is completed. This workshop covers work processes and procedures at the specific company site where a driver is employed. This course requires students to complete a 16- hour seminar, drive on the road for at least 100 hours with a driver trainer and pass all assessments distributed throughout the session with at least a 95% passing rate.

VISUAL COMMUNICATIONS (VC)

VC 114: Introduction to InDesign (3)

This course is an introduction to using InDesign, the graphic design industry standard for publication design. InDesign is a very complex application and contains many different tools, some of which are quite difficult to use. Students will become familiar with the features of this program, and gain a basic understanding of how InDesign interfaces with the entire Adobe design software platform. 2 lecture, 3 lecture/lab hrs/wk. F.

VC 130: Introduction to Photoshop (3)

Adobe Photoshop is an indispensable image editing software application. This course is an introduction to using Photoshop for image creating and editing. This course provides an introduction to basic image editing. 2 lecture, 3 lab hrs/wk. W, SU

VC 139: Introduction to Illustrator (3)

This course is designed for the beginning student who wants to learn how to use the popular digital drawing program Adobe Illustrator. This class will be taught bi-platform (Mac OS and Windows) and will focus on learning the nuts and bolts of the software, not on artistic design. Students will learn basic Illustrator skills - how to use the toolbox, the panels, and the menus; how to create simple shapes, work with objects, use layers, work with type, and the use of paths, special effects, color, and fills. 2 lecture, 3 lab hours/wk. S

VITICULTURE & ENOLOGY (VE)

VE 101: Introduction to the Wine Industry (1)

Introduction to grape growing and wine production, including history; wines of the world and wines of Oregon; varieties and rootstocks; climate and soils; propagation, planting and training; common diseases and pests. 1 lecture hr/wk. F, W, S, Su

VE 102: Integrated Pest Control for Grapes (4)

Theory and practice of integrated pest control in grape growing, including biology of diseases and common insects, rodents, birds, and animals. 3 lecture, 3 lab hrs/wk. S

VE 103: Vineyard Soils, Plant Nutrition & Irrigation (4)

Introduction to basic principles of soil science, mineral nutrition and plant/water relationships for grape production. 3 lecture, 3 lab hrs/wk. Su

VE 110: Vineyard Practices I (4)

Vineyard practices for the fall season, including ripening patterns of different grape varieties and pruning vines. Emphasis on practical application of viticulture theory. 3 lecture, 3 lab hrs/wk. F

VE 111: Vineyard Practices II (4)

Vineyard practices for winter season, including growth cycles, frost damage, field trials, sales contracts, labor relations and the relationship of pruning to wine quality. Emphasis on practical applications of viticulture theory. 3 lecture, 3 lab hrs/wk. W

VE 112: Vineyard Practices III (4)

Vineyard practices for the spring and summer seasons, including mildew control, grape sampling and advanced pruning. Emphasis on practical applications of viticulture theory. 3 lecture, 3 lab hrs/wk. S

VE 201: Winemaking for Viticulturists (3)

The science of winemaking from the vineyard to the winery. Students will produce their own wine. Students must be at least 18 years of age. Laboratory materials fee. 2 lecture, 2 lecture/lab hrs/wk. F

VE 202: Sensory Evaluation of Wine (4)

Introduction to wine sensory evaluation, including statistical analysis of trials; study of wine styles; sensory testing techniques; identification of wine traits. Sensory evaluation of representative wines. Laboratory materials fee. Must be at least 18 years of age. 3 lecture, 2 lecture/lab hrs/wk. W

VE 203: Wines of Europe (3)

This course is an overview of the wines of Europe, whose history is a major influence in modern winemaking practices. Students will become familiar with the major wine producing countries; the regions within those countries; their laws, traditions, and wine styles; as well as the grape varieties, soils, and climate conditions that make each region and the wine it produces unique in the world marketplace. While a stand-alone class, this course is the first of the VE 203, VE 204, VE 205 series, designed to give students a full understanding of the current global wine industry. The class includes sensory evaluation of representative samples from the regions covered. Students must be at least 18 years of age. 2 lecture, 2 lecture/lab hrs/wk. F

VE 204: Wines of the Southern Hemisphere (3)

This course is an overview of the wines of the southern hemisphere, including Chile, Argentina, Australia, New Zealand, and South Africa. Students will become familiar with the major wine producing countries; the regions within those countries; their laws, traditions, and wine styles; as well as the grape varieties, soils, and climate conditions that make each region and the wine it produces unique in the world marketplace. Students will also examine the contribution each country has made to modern global winemaking practices and the current global wine market. While a stand-alone class, this course is the second of the VE 203, VE 204, VE 205 series, designed to give students a full understanding of the current global wine industry. The class includes sensory evaluation of representative samples from the regions covered. Students must be at least 18 years of age. 2 lecture, 2 lecture/lab hrs/wk. W

VE 205: Wines of North America (3)

This course is an overview of the wines of North America, including the United States, Canada, and Mexico. Students will become familiar with the major wine producing regions within those countries; their laws, traditions, and wine styles; as well as the grape varieties, soils, and climate conditions that make each region and the wine it produces unique in the world marketplace. Students will also examine the contribution each region has made to modern global winemaking practices and the current global wine market. While a stand-alone class, this course is the culmination of the VE 203, VE 204, VE 205 series, designed to give students a full understanding of the current global wine industry, as well as a full understanding of the domestic industry in which they would currently work. The class includes sensory evaluation of representative samples from the regions covered. Students must be at least 18 years of age. 2 lecture, 2 lecture/lab hrs/wk. S

VE 209: Laboratory Analysis of Musts and Wines (4)

Winery laboratory practices, including basic principles, techniques and common methods of analysis for musts and wines. Laboratory methods used to determine when to add amendments to wines and how to stabilize and clarify wines. Laboratory materials fee. 3 lecture, 3 lab hrs/wk. F

VE 210: Science of Winemaking I (5)

Wine production theory and hands-on practice of harvest activities including: winery materials, safety, equipment sanitation, crushing, pressing and fermentation. 4 lecture, 3 lab hrs/wk. F

VE 211: Science of Winemaking II (5)

Wine production theory and hands-on practice of cellar finishing and bottling activities, including: racking, fining, filtration, oak science, barrel management, and barrel alternatives. 4 lecture, 3 lab hrs/wk. W

VE 212: Science of Winemaking III (5)

Wine production theory and hands-on practice of cellar finishing and bottling activities including: additions, filtration, blending, bottling equipment, bottling materials, bottling sanitation and quality control, evaluation of wine flavor and aroma, and regulatory compliance. Students must be at least 18 years of age. 4 lecture, 3 lab hrs/wk. S



VE 223: Wine Marketing (3)

Wine marketing methods, including packaging, distribution, advertising and promotion. 3 lecture hrs/wk. S

VE 280: Cooperative Work Experience: Viticulture/Enology (1-13)

Course content is dependent upon the nature of the job position and season. Acceptable practicum activities include vineyard and winery operations, tasting room operations, winery sanitation, racking, bottling, chemical analyses, marketing, hospitality and tourism. Prerequisite: instructor approval. 33 hours = 1 credit. F, W, S, Su

WELDING (WLD)

WLD 101: Welding Processes and Applications (4)

Covers welding processes, safety, equipment, and essential variables of operation. This is an outcomes-based course utilizing a lecture/lab format. This course includes, but is not limited to: classroom discussions, multimedia presentations, and lab demonstrations covering technical skills. Prerequisite: None. 8 lecture/lab hrs./wk.

WLD 111: Shielded Metal Arc Welding (4)

Covers uses, safety, nomenclature, equipment operation, set-up and shutdown procedures and welding-related math and science for S.M.A.W. and O.A.C. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite/Corequisite: WLD 101. 8 lecture/lab hrs./wk.

WLD 112: Shielded Metal Arc Welding: Mild Steel I (3)

Develops knowledge and manipulative skills in the use of E7018 mild steel electrodes when performing various welds in flat and horizontal positions. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture, 4 lecture/ lab hrs./wk.

WLD 113: Shielded Metal Arc Welding: Mild Steel II (3)

Develops knowledge and manipulative skills in the use of E7018

mild steel electrodes when performing various welds in vertical and overhead positions. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Instructor-Enforced Prerequisite: Welder Continuity Log. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lecture/ lab hrs./wk.

WLD 114: Shielded Metal Arc Welding: Mild Steel III (3)

Develops knowledge and manipulative skills in the use of E6011 mild steel electrodes when performing various welds in flat, horizontal, and vertical positions. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lecture/lab hrs./wk.

WLD 121: Gas Metal Arc Welding (3)

Develops knowledge and manipulative skills welding with solid wire on ferrous and non-ferrous materials using short circuit globular, and spray transfer modes in flat, horizontal, vertical, and overhead positions. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lecture/lab hrs./wk.

WLD 122: Gas Metal Arc Welding-Pulse (3)

Develops knowledge and manipulative skills using the Gas Metal Arc Welding-Pulse transfer process on common mild steel and aluminum joints in all positions. Covers safety, users, nomenclature, equipment operation and set up and shut down procedures. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lecture/lab hrs./wk.

WLD 123: Advanced Welding III (3)

Designed to provide the advanced welding student additional lab time to develop welding skills and techniques. The use of shop prints will be encouraged. Registration-Enforced Prerequisite: WLD 142 or Instructor approval. 9 lab hrs./wk. F

WLD 124: Advanced Welding IV (3)

Designed to provide the advanced welding student additional lab time to develop welding skills and techniques. The use of shop prints will be encouraged. Registration-Enforced Prerequisite: WLD 142 or Instructor approval. 9 lab hrs./wk. W

WLD 131: Basic Metallurgy (3)

Covers the principles related to metals, their structure and physical properties. The testing of various metals, their uses and the results of heat treating are explored. Laboratory time is provided for experiments and demonstrations to correlate with classroom activities. Registration-Enforced Prerequisite/Corequisite: WLD 101 or APR 140. 1 lecture/4 lecture/lab hrs./wk.

WLD 140: Blueprint Reading and Sketching (3)

A basic course in sketching and reading of shop drawings. A study is made of three-view drawings, pictorial drawings, dimensioning, tolerance, lines, note and symbol interpretation. 2 lecture and 2 lecture/lab hrs./wk. W

WLD 141: Flux-Cored Arc Welding I (Gas Shielded) (3)

Develops knowledge and manipulative skills in the gas shielded flux-cored arc welding process in flat, vertical, horizontal, and overhead positions. Covers safety, users, nomenclature, equipment operation and set-up and shut-down procedures. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lecture/lab hrs./wk.

WLD 142: Flux-Cored Arc Welding II (Self Shielding) (3)

Develops knowledge and manipulative skills in the self-shielding arc welding process in flat, vertical, horizontal, and overhead positions. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, videotapes, and lab demonstrations of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lecture/lab hrs./wk.

WLD 150: GTAW I - Gas Tungsten Arc Welding I (3)

Develops knowledge and manipulative skills using the Gas Tungsten Arc Welding process on mild steel, stainless steel, and aluminum. This class will cover AWS code requirements for structural and mechanical type joint configurations. This class will cover all joint configurations and all positions, as well as, cover safety, users, nomenclature, equipment, operation, setup, and shut down procedures. This is an outcomes-based course utilizing a lecture/lab format. This course includes classroom discussions, video, and lab demonstrations in the development of technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture, 4 lecture/lab hrs./wk. S

WLD 160: Aluminum Arc Welding & Fabrication I (3)

Develops knowledge and manipulative skills in the use of layout techniques, material handling, and identification of Aluminum and Aluminum alloys. Develops knowledge and skills in electrode selection and application when performing various welds in the flat and horizontal positions. This is an outcomes-based course utilizing a lecture/ lab format. This course includes, but is not limited to: classroom discussions, multimedia presentations, and lab demonstrations covering technical skills. Registration-Enforced Prerequisite: WLD 101. 1 lecture/4 lab hrs./wk. S

WLD 161: Welding Problems (4)

A review and application of the welding, layout, and fabrication processes covered during the year. A study and practice of production welding methods, electrode consumption, and method selection is included. Fabrication and assembly projects are selected to present typical and pattern development in fabrication and production problems. Prerequisite: Satisfactory completion of first and second terms. Registration-Enforced Prerequisite: WLD 142 or Instructor approval. 9 lab hrs./wk. S

WLD 222: Pipe Welding and Fitting I (3)

Develops knowledge and manipulative skills utilizing multiple welding processes and electrodes on mild steel, stainless steel and aluminum. This class is designed to better prepare the entry level welder for pipe welding. This class will cover API 1104 and ASME Section IX Pipe welding standards and code requirements for high pressure vessel type joint configurations. Weld manipulation

and techniques will cover all positions on both pipe and plate applications. This course will build upon topics covered in the first year of welding instruction. This is an outcomes-based course utilizing the lecture/lab format. The course includes classroom discussions, video and lab demonstrations in the development of technical skills. Registration-Enforced Prerequisite: WLD 142. 1 lecture hr/4 lecture/lab hrs./wk. W

WLD 223: Pipe Welding and Fitting II (3)

Develops knowledge and manipulative skills utilizing multiple welding processes and electrodes on mild steel, stainless steel and aluminum. This class is designed to better prepare the entry level welder for pipe welding. This class will cover API 1104 and ASME Section IX Pipe welding standards and code requirements for high pressure vessel type joint configurations. Weld manipulation and techniques will cover all positions on both pipe and plate applications. This course will build upon topics covered in the first year of welding instruction. This is an outcomes-based course utilizing the lecture/lab format. The course includes classroom discussions, video and lab demonstrations in the development of technical skills. Registration-Enforced Prerequisite: WLD 222. 1 lecture, 4 lecture/lab hrs./wk. S

WLD 240: Blueprint Reading - II (3)

Develops knowledge and manipulative skills utilizing advanced print reading and sketching. Reading and interpretation of shop drawings, piping, hydraulic and numeric lines, valves, gates and electrical symbols will be studied as will as welding symbols, line types and notation. This class will cover API 1104 and ASME Section IX Pipe welding standards and code requirements for high pressure vessels. This is an outcomes-based course utilizing the lecture/lab format. The course includes classroom discussions, video and lab demonstrations in the development of technical skills. Registration-Enforced Prerequisite WLD 140. 2 lecture and 2 lecture/lab hrs./wk. S

WLD 251: Gas Tungsten Arc Welding, GTAW II (3)

Develops knowledge and manipulative skills using the Gas Tungsten Arc Welding process on mild steel, stainless steel and aluminum. This class will cover API 1104 and ASME Section IX Pipe welding standards and code requirements for high pressure vessel type joint configurations. Weld manipulation and techniques will cover all positions on both pipe and plate applications. This is an outcomes-based course utilizing the lecture/lab format. The course includes classroom discussions, video and lab demonstrations in the development of technical skills. Registration-Enforced Prerequisite: WLD 150. 1 lecture, 4 lecture/lab hrs./wk. F

WLD 252: Gas Tungsten Arc Welding, GTAW III (3)

Develops knowledge and manipulative skills using the Gas Tungsten Arc Welding process on mild steel, stainless steel and aluminum. This class will cover API 1104 and ASME Section IX Boiler and Pressure Vessel Code requirements and joint configurations. Weld manipulation and techniques will cover all positions on both pipe and plate applications. This is an outcomes-based course utilizing the lecture/lab format. The course includes classroom discussions, video and lab demonstrations in the development of technical skills. Registration-Enforced Prerequisite: WLD 251. 1 lecture, 4 lecture/lab hrs./wk. W

WLD 261: Aluminum Arc Welding & Fabrication II (3)

Develops knowledge and manipulative skills in the use of traditional and advanced welding techniques for Aluminum and Aluminum alloys. Develops knowledge and skills in electrode selection and application when performing various welds in the Horizontal, Vertical and Over Head positions. This is an outcomes-based course utilizing a lecture/ lab format. This course includes, but is not limited to: classroom discussions, multimedia presentations, and lab demonstrations covering technical skills. Registration-Enforced Prerequisite: WLD 160 1 lecture/4 lab hrs./wk. F

WLD 262: Aluminum Arc Welding & Fabrication III (3)

Develops knowledge and manipulative skills in the use traditional and advanced welding techniques for Aluminum and Aluminum alloys. This class is designed to better prepare the entry level welder for Aluminum welding. This class will cover AWS D1.2 Structural welding code standards for aluminum welding code requirements. Weld manipulation and techniques will cover all positions on both pipe and plate applications. This is an outcomes-based course utilizing a lecture/ lab format. This course includes, but is not limited to: classroom discussions, multimedia presentations, and lab demonstrations covering technical skills. Registration-Enforced Prerequisite: WLD 261 1 lecture/ 4 lab hrs./wk. W

WLD 280: Cooperative Work Experience: Welding (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

WATER/WASTEWATER QUALITY (WQT)

WQT 227: Wastewater Treatment (3)

This course covers the fundamentals of wastewater treatment facilities, including operation and maintenance of facilities. Course will help students prepare for the Level I Wastewater Treatment Operator Certification exam. Registration-Enforced Prerequisite: MTH 052. 3 lecture hrs/wk. W

WQT 228: Wastewater Collection (3)

Course introduces the basics of design, operation, and maintenance of wastewater systems. Course includes pipe sizing, pipe slopes and flow velocities, general system components, and installation, inspection, testing and repair techniques. Field trips may be made to existing facilities and work under construction. Registration-Enforced Prerequisite: MTH 052. 3 lecture hrs/wk. W

WQT 260: Water Treatment (3)

This course covers the fundamentals of water treatment facilities, including operation and maintenance of facilities. Registration-Enforced Prerequisite: MTH 052. 3 lecture hrs/wk. S

WQT 261: Water Distribution (4)

This course covers the fluid mechanics for pressure systems and operation and maintenance of water distribution systems. The

fundamental properties of fluids, hydrostatic pressure, fluid flow and energy distribution are covered for closed systems. The solution of practical, applied problems is emphasized. Operators and engineering technicians learn to analyze and solve problems when they occur and perform mathematical calculations commonly associated with operating a distribution system. Registration-Enforced Prerequisite: MTH 052. 4 lecture hrs/wk. F

WQT 280: Cooperative Work Experience: Water Quality Treatment (1-13)

Qualified students work at training sites that provide experience appropriate to their major. These experiences will provide the opportunity for students to gain knowledge of various tasks performed in their career field. A student may take any number of CWE credits per term, not to exceed 13 credits per year, except for students taking Occupational Skills Training (OST), which has a limit of 24 credits per year. Registration-Enforced Prerequisite: Instructor approval. 1 credit = 33 hours of lab. F, W, S, Su

WRITING (WR)

WR 080, 081, 082: Writing Skills Lab (1)

This course offers supplementary instruction to students enrolled in UCC courses requiring written assignments at, or above, the WR 115 level. Tutorial and practice software and one-on-one tutoring will be used for individual skill development. Upon completion of WR 080 students may repeat the course two times by registering for WR 081 and WR 082. Registration-Enforced Corequisite: WR 115 or above. F, W, S

WR 095: College Writing Fundamentals (3)

Students will apply the steps in the process of writing, including pre-writing, composing, and revising, to develop paragraphs and essays. They will also improve sentence skills necessary for communicating their ideas most fully and flexibly. Students will use the word processor as a writing tool. Successful completion of this course prepares a student for WR 115. This course is required for all students in the Practicing Success Cohort or Transition Writing cohort. 3 lecture hrs/wk. F, W, S

WR 115: Introduction to Expository Writing (4)

Designed for students who need improvement in writing skills. Special emphasis will be placed on sentence construction, grammar, usage, spelling, vocabulary, and paragraph and essay development. Students will write essays based on selected rhetorical modes, including a selection of the following: narrative description, definition/concept, comparison/contrast, process analysis, classification/division, and cause/effect. The final essay in WR 115 is a persuasive essay that introduces students to the basics of argumentation and academic discourse. Students will also learn the basics of MLA format and documentation. Basic knowledge of how to use a computer for word processing is necessary for success in this course. F, W, S, Su

Registration-Enforced Prerequisite: WR 095 with a grade of C or better or placement by approved measure; RD 080 with a grade of C or better or placement by approved measure.

WR 121: Academic Composition (4)

Writing 121 focuses on rhetorical reading, thinking, and writing as means of inquiry. Students will gain fluency with key rhetorical

concepts and utilize these in a flexible and collaborative writing process, reflecting on their writing process with the goal of developing metacognitive awareness. They will employ conventions, including formal citations, appropriate for a given writing task, attending to the constraints of audience, purpose, genre, and discourse community. Students will compose in two or more genres, with a focus on argumentation. They will produce at least 3,000 to 3,500 words of revised, final draft copy. Students will produce at least one essay that integrates research and demonstrates an understanding of the role of an enthymeme in an academic essay of at least 1,000 words. Basic knowledge of how to use a computer for word processing is necessary for success in this course. F, W, S, Su

Registration-Enforced Prerequisite: WR 115, RD 090 each with a grade of C or better or appropriate placement test or placement by multiple measures; and basic computer for word processing skills.

WR 122: Argument, Research, and Multimodal Composition (4)

WR 122 continues the focus of WR 121 in its review of rhetorical concepts and vocabulary, in the development of reading, thinking, and writing skills, along with metacognitive competencies understood through the lens of a rhetorical vocabulary. Specifically, students will identify, evaluate, and construct chains of reasoning, a process that includes an ability to distinguish assertion from

evidence, recognize and evaluate assumptions, and select sources appropriate for a rhetorical task. Students will employ a flexible, collaborative, and appropriate composing process, working in multiple genres, and utilizing at least two modalities. They will produce 3500-4500 words of revised, final draft copy. Students will produce at least two argumentative essays, demonstrating competence in both research and academic argumentation. Basic knowledge of how to use a computer for word processing is necessary for success in this course. F, W, S, Su

Registration-Enforced Prerequisite: WR 121 with a grade of C or better.

WR 227: Technical Writing (4)

WR 227 prepares students to produce instructive, informative, and persuasive technical documents. Grounded in rhetorical theory, WR 227 focuses on producing ethical, reader-centered content that is clear, concise, and accurate. Students will engage in current best practices and learn strategies for effective communication in the digital and networked global workplace. Writing faculty strongly encourages students to complete WR 122 before enrolling in WR 227; however, the Registration-Enforced Prerequisite is the successful completion of WR 121 (4 credits) with a grade of C or better. 4 lecture hrs/wk. F, W, S, Su

