

Course Descriptions

KEY TO COURSE DESCRIPTIONS:

Course Prefix, Number, Name

Area of Study

Class Hours
Lab Hours
Clinical/Work Exp.
Credit Hours

ACADEMIC RELATED

ACA 111 College Student Success (1-0-0-1)

Prerequisites: None

Corequisites: None

This course introduces the college's physical, academic, and social environment and promotes the personal development essential for success. Topics include campus facilities and resources; policies, procedures, and programs; study skills; and life management issues such as health, self-esteem, motivation, goal-setting, diversity, and communication. Upon completion, students should be able to function effectively within the college environment to meet their educational objectives. *This course is also available through the Virtual Learning Community (VLC).*

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ACA 118 College Study Skills (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers skills and strategies designed to improve study behaviors. Topics include time management, note taking, test taking, memory techniques, active reading strategies, critical thinking, communication skills, learning styles, and other strategies for effective learning. Upon completion, students should be able to apply appropriate study strategies and techniques to the development of an effective study plan.

ACA 121 Managing a Team (1-0-0-1)

Prerequisites: None

Corequisites: None

This course focuses on the process of the individual with an awareness of the reality in the collective teamwork approach for the workplace emphasizing process-orientation. Topics include how teams work, team effectiveness, team-building techniques, positive thinking, and leadership principles. Upon completion, students should be able to demonstrate an

understanding of how teamwork strengthens ownership, involvement, and responsibility in the workplace.

ACA 122 College Transfer Success (1-0-0-1)

Prerequisites: None

Corequisites: None

This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ACCOUNTING

ACC 115 College Accounting (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces basic accounting principles for a sole proprietorship. Topics include the complete accounting cycle with end-of-period statements, bank reconciliation, payrolls, and petty cash. Upon completion, students should be able to demonstrate an understanding of accounting principles and apply those skills to a business organization.

ACC 120 Prin of Financial Acct (3-2-0-4)

Prerequisites: MAT 060

Corequisites: None

This course introduces business decision-making using accounting information systems. Emphasis is placed on analyzing, summarizing, reporting, and interpreting financial information. Upon completion, students should be able to prepare financial statements, understand the role of financial information in decision-making and address ethical considerations. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

ACC 121 Prin of Managerial Acct (3-2-0-4)

Prerequisites: ACC 120

Corequisites: None

This course is a continuation of accounting principles. Emphasis is placed on managerial accounting concepts for external and internal analysis, reporting and decision-making. Upon completion, students should be able to analyze and interpret transactions relating to managerial concepts including product costing systems. *This course has been approved to satisfy the Comprehensive Articulation Agreement pre-major and/or elective course requirement.*

ACC 122 Principles of Financial Accounting II (3-0-0-3)

Prerequisites: ACC 120

Corequisites: None

This course provides additional instruction in the financial accounting concepts and procedures introduced in ACC 120. Emphasis is placed on the analysis of specific balance sheet accounts, with in-depth instruction of the accounting principles applied to these accounts. Upon completion, students should be able to analyze data, prepare journal entries, and prepare reports in compliance with generally accepted accounting principles.

ACC 129 Individual Income Taxes (2-2-0-3)

Prerequisites: ACC 120

Corequisites: None

This course introduces the relevant laws governing individual income taxation. Topics include tax law, electronic research and methodologies, and the use of technology for preparation of individual tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various individual tax forms.

ACC 130 Business Income Taxes (2-2-0-3)

Prerequisites: ACC 129

Corequisites: None

This course introduces the relevant laws governing business and fiduciary income taxes. Topics include tax law relating to business organizations, electronic research and methodologies, and the use of technology for the preparation of business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax law, and complete various business tax forms.

ACC 140 Payroll Accounting (1-2-0-2)

Prerequisites: ACC 115 or ACC 120

Corequisites: None

This course covers federal and state laws pertaining to wages, payroll taxes, payroll tax forms, and journal and general ledger transactions. Emphasis is placed on computing wages; calculating social security, income, and unemployment taxes; preparing appropriate payroll tax forms; and journalizing/posting transactions. Upon completion, students should be able to analyze data, make appropriate computations, complete forms, and prepare accounting entries using appropriate technology.

ACC 149 Intro to Acct. Spreadsheets (1-2-0-2)

Prerequisites: ACC 115 or ACC 120

Corequisites: None

This course provides a working knowledge of computer spreadsheets and their use in accounting. Topics include pre-programmed problems, model-building problems, beginning-level macros, graphics, and what-if analysis enhancements of template problems. Upon completion, students should be able to use a computer spreadsheet to complete many of the tasks required in accounting.

ACC 150 Accounting Software Applications (1-2-0-2)

Prerequisites: ACC 115 or ACC 120 and ACC 149

Corequisites: None

This course introduces computer applications related to accounting systems. Topics include general ledger, accounts receivable, accounts payable, inventory, payroll, and correcting, adjusting, and closing entries. Upon completion, students should be able to use a computer accounting software package to solve accounting problems.

ACC 151 Acct Spreadsheet Appl (1-2-0-2)

Prerequisites: ACC 149

Corequisites: None

This course is designed to facilitate the use of spreadsheet technology as applied to accounting principles. Emphasis is placed on using spreadsheet software as a problem-solving and decision-making tool. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

ACC 220 Intermediate Accounting I (3-2-0-4)

Prerequisites: ACC 121, ACC 122

Corequisites: None

This course is a continuation of the study of accounting principles with in-depth coverage of theoretical concepts and financial statements. Topics include generally accepted accounting principles and extensive analyses of financial statements. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

ACC 221 Intermediate Acct II (3-2-0-4)

Prerequisites: ACC 220

Corequisites: None

This course is a continuation of ACC 220. Emphasis is placed on special problems which may include leases, bonds, investments, ratio analyses, present value applications, accounting changes, and corrections. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

ACC 225 Cost Accounting (3-0-0-3)

Prerequisites: ACC 121

Corequisites: None

This course introduces the nature and purposes of cost accounting as an information system for planning and control. Topics include direct materials, direct labor, factory overhead, process, job order, and standard cost systems. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

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ACC 240 Gov & Not-for-Profit Acct (3-0-0-3)

Prerequisites: ACC 121

Co-requisites: None

This course introduces principles and procedures applicable to governmental and not-for-profit organizations. Emphasis is placed on various budgetary accounting procedures and fund accounting. Upon completion, students should be able to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

ACC 269 Audit & Assurance Services (3-0-0-3)

Prerequisites: ACC 220

Corequisites: None

This course introduces selected topics pertaining to the objectives, theory and practices in engagement providing auditing and other assurance services. Topics will include planning, conducting and reporting, with emphasis on the related professional ethics and standards. Upon completion, students should be able to demonstrate an understanding of the types of professional services, the related professional standards, and engagement methodology.

AIR CONDITIONING, HEATING AND REFRIGERATION

(Also see Electrical Installation and Maintenance ELC)

AHR 110 Intro. to Refrigeration (2-6-0-5)

Prerequisites: None

Corequisites: None

This course introduces the basic refrigeration process used in mechanical refrigeration and air conditioning systems. Topics include terminology, safety, and identification and function of components; refrigeration cycle; and tools and instrumentation used in mechanical refrigeration systems. Upon completion, students should be able to identify refrigeration systems and components, explain the refrigeration process, and use the tools and instrumentation of the trade.

AHR 112 Heating Technology (2-4-0-4)

Prerequisites: None

Corequisites: None

This course covers the fundamentals of heating including oil, gas, and electric heating systems. Topics include safety, tools and instrumentation, system operating characteristics, installation techniques, efficiency testing, electrical power, and control systems. Upon completion, students should be able to explain the basic oil, gas, and electrical heating systems and describe the major components of a heating system.

AHR 113 Comfort Cooling (2-4-0-4)

Prerequisites: None

Corequisites: None

This course covers the installation procedures, system operations, and maintenance of residential and light commercial comfort cooling systems. Topics

include terminology, component operation, and testing and repair of equipment used to control and produce assured comfort levels. Upon completion, students should be able to use psychometrics, manufacturer specifications, and test instruments to determine proper system operation.

AHR 114 Heat Pump Technology (2-4-0-4)

Prerequisites: AHR 110 or AHR 113

Corequisites: None

This course covers the principles of air source and water source heat pumps. Emphasis is placed on safety, modes of operation, defrost systems, refrigerant charging, and system performance. Upon completion, students should be able to understand and analyze system performance and perform routine service procedures.

AHR 120 HVACR Maintenance (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces the basic principles of industrial air conditioning and heating systems. Emphasis is placed on preventive maintenance procedures for heating and cooling equipment and related components. Upon completion, students should be able to perform routine preventive maintenance tasks, maintain records, and assist in routine equipment repairs.

AHR 130 HVAC Controls (2-2-0-3)

Prerequisites: AHR 111 or ELC 111

Corequisites: None

This course covers the types of controls found in residential and commercial comfort systems. Topics include electrical and electronic controls, control schematics and diagrams, test instruments, and analysis and troubleshooting of electrical systems. Upon completion, students should be able to diagnose and repair common residential and commercial comfort system controls.

AHR 133 HVAC Servicing (2-6-0-4)

Prerequisites: None

Corequisites: AHR 112 or AHR 113

The course covers the maintenance and servicing of HVAC equipment. Topics include testing, adjusting, maintaining, and troubleshooting HVAC equipment and record keeping. Upon completion, students should be able to adjust, maintain, and service HVAC equipment.

AHR 140 All-Weather Systems (1-3-0-2)

Prerequisites: AHR 112 or AHR 113

Corequisites: None

This course covers the principles of combination heating and cooling systems including gas-electric, all-electric, and oil-electric systems. Topics include PTAC's and package and split-system units. Upon completion, students should be able to understand systems performance and perform routine maintenance procedures.

AHR 151 HVAC Duct Systems I (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces the techniques used to lay out and fabricate duct work commonly found in HVAC

systems. Emphasis is placed on the skills required to fabricate duct work. Upon completion, students should be able to lay out and fabricate simple duct work.

AHR 160 Refrigerant Certification (1-0-0-1)

Prerequisites: None

Corequisites: None

This course covers the requirements for the EPA certification examinations. Topics include small appliances, high pressure systems, and low pressure systems. Upon completion, students should be able to demonstrate knowledge of refrigerants and be prepared for the EPA certification examinations.

AHR 210 Residential Building Code (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers the residential building codes that are applicable to the design and installation of HVAC systems. Topics include current residential codes as applied to HVAC design, service, and installation. Upon completion, students should be able to demonstrate the correct usage of residential building codes that apply to specific areas of the HVAC trade.

AHR 211 Residential System Design (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces the principles and concepts of conventional residential heating and cooling system design. Topics include heating and cooling load estimating, basic psychometrics, equipment selection, duct system selection, and system design. Upon completion, students should be able to design a basic residential heating and cooling system.

AHR 215 Commercial HVAC Controls (1-3-0-2)

Prerequisites: AHR 111 or ELC 111

Corequisites: None

This course introduces HVAC control systems used in commercial applications. Topics include electric/electronic control systems, pneumatic control systems, DDC temperature sensors, humidity sensors, pressure sensors, wiring, controllers, actuators, and controlled devices. Upon completion, students should be able to verify or correct the performance of common control systems with regard to sequence of operation and safety.

ANTHROPOLOGY

ANT 210 General Anthropology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

ANT 220 Cultural Anthropology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 221 Comparative Cultures (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an ethnographic survey of societies around the world covering their distinctive cultural characteristics and how these relate to cultural change. Emphasis is placed on the similarities and differences in social institutions such as family, economics, politics, education, and religion. Upon completion, students should be able to demonstrate knowledge of a variety of cultural adaptive strategies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ANT 230 Physical Anthropology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the scientific study of human evolution and adaptation. Emphasis is placed on evolutionary theory, population genetics, biocultural adaptation and human variation, as well as non-human primate evolution, morphology, and behavior. Upon completion, students should be able to demonstrate an understanding of the biological and cultural processes which have resulted in the formation of the human species. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences.*

ANT 230A Physical Anthropology Lab (0-2-0-1)

Prerequisites: None

Corequisites: ANT 230

This course provides laboratory work that reinforces the material presented in ANT 230. Emphasis is placed on laboratory exercises which may include fossil identification, genetic analysis, skeletal comparisons, forensics, computer simulations, and field observations. Upon completion, students should be able to demonstrate an understanding of the analytical skills employed by anthropologists in the study of primate evolution and variation. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

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ANT 240 Archaeology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the scientific study of the unwritten record of the human past. Emphasis is placed on the process of human cultural evolution as revealed through archaeological methods of excavation and interpretation. Upon completion, students should be able to demonstrate an understanding of how archaeologists reconstruct the past and describe the variety of past human cultures. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ARCHITECTURE

ARC 111 Intro to Arch Technology (1-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces basic architectural drafting techniques, lettering, use of architectural and engineer scales, and sketching. Topics include orthographic, axonometric, and oblique drawing techniques using architectural plans, elevations, sections, and details; reprographic techniques; and other related topics. Upon completion, students should be able to prepare and print scaled drawings within minimum architectural standards.

ARC 112 Constr Matls & Methods (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces construction materials and their methodologies. Topics include construction terminology, materials and their properties, manufacturing processes, construction techniques, and other related topics. Upon completion, students should be able to detail construction assemblies and identify construction materials and properties.

ARC 113 Residential Arch Tech (1-6-0-3)

Prerequisites: ARC 111

Corequisites: ARC 112

This course covers intermediate residential working drawings. Topics include residential plans, elevations, sections, details, schedules, and other related topics. Upon completion, students should be able to prepare a set of residential working drawings that are within accepted architectural standards.

ARC 114 Architectural CAD (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces basic architectural CAD techniques. Topics include basic commands and system hardware and software. Upon completion, students should be able to prepare and plot architectural drawings to scale within accepted architectural standards.

ARC 119 Structural Drafting (2-2-0-3)

Prerequisites: ARC 113 and MAT 121

Corequisites: None

This course introduces basic concepts associated with sizing and detailing structural assemblies. Topics include vocabulary, span-to-depth ratios, code

requirements, shop drawings, and other related topics. Upon completion, students should be able to perform simple calculations and prepare shop drawings and preliminary structural plans.

ARC 131 Building Codes (2-2-0-3)

Prerequisites: ARC 112 or CAR 111

Corequisites: None

This course covers the methods of researching building codes for specific projects. Topics include residential and commercial building codes. Upon completion, students should be able to determine the code constraints governing residential and commercial projects.

ARC 141 Elem Structures for Arch (4-0-0-4)

Prerequisites: ARC 111 and MAT 121,

MAT 171, or MAT 175

Corequisites: None

This course covers concepts of elementary structures in architecture. Topics include structural form, statics, strength of materials, structural behavior, and the relationship between structures and architectural form. Upon completion, students should be able to size simple structural elements.

ARC 211 Light Constr Technology (1-6-0-3)

Prerequisites: ARC 111

Corequisites: ARC 112

This course covers working drawings for light construction. Topics include plans, elevations, sections, and details; schedules; and other related topics. Upon completion, students should be able to prepare a set of working drawings which are within accepted architectural standards.

ARC 213 Design Project (2-6-0-4)

Prerequisites: ARC 111, ARC 112,

and ARC 114

Corequisites: None

This course provides the opportunity to design and prepare a set of contract documents within an architectural setting. Topics include schematic design, design development, construction documents, and other related topics. Upon completion, students should be able to prepare a set of commercial contract documents.

ARC 220 Adv Architect CAD (1-3-0-2)

Prerequisites: ARC 114

Corequisites: None

This course provides file management, productivity, and CAD customization skills. Emphasis is placed on developing advanced proficiency techniques. Upon completion, students should be able to create prototype drawings and symbol libraries, compose sheets with multiple details, and use advanced drawing and editing commands.

ARC 221 Architectural 3-D CAD (1-4-0-3)

Prerequisites: ARC 114

Corequisites: None

This course introduces architectural three dimensional CAD applications. Topics include three-dimensional drawing, coordinate systems, viewing, rendering, modeling, and output options. Upon completion, students should be able to prepare architectural three-dimensional drawings and renderings.

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ARC 230 Environmental Systems (3-3-0-4)

Prerequisites: ARC 111 and MAT 121,
MAT 151, MAT 161, MAT 171,
or MAT 175

Corequisites: None

This course introduces plumbing, mechanical (HVAC), and electrical systems for the architectural environment. Topics include basic plumbing, mechanical, and electrical systems for residential and/or commercial buildings with an introduction to selected code requirements. Upon completion, students should be able to develop schematic drawings for plumbing, mechanical, and electrical systems and perform related calculations.

ARC 263 Intro to ADA Title III (1-2-0-2)

Prerequisites: ARC 211

Corequisites: None

This course introduces the American Disabilities Act Title III requirements. Emphasis is placed on Title III requirements as they apply to building construction. Upon completion, students should be able to interpret and apply Title III requirements to buildings.

ART

ART 111 Art Appreciation (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the origins and historical development of art. Emphasis is placed on the relationship of design principles to various art forms including but not limited to sculpture, painting, and architecture. Upon completion, students should be able to identify and analyze a variety of artistic styles, periods, and media. Art majors will not receive credit for taking this class. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ART 114 Art History Survey I (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ART 115 Art History Survey II (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. *This course has been approved to satisfy the Comprehensive Articulation*

Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community. (VLC).

ART 116 Survey of American Art (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers the development of American art forms from colonial times to the present. Emphasis is placed on architecture, painting, sculpture, graphics, and the decorative arts. Upon completion, students should be able to demonstrate understanding of the history of the American creative experience. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 117 Non-Western Art History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces non-Western cultural perspectives. Emphasis is placed on, but not limited to, African, Oriental, and Oceanic art forms throughout history. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of non Western social and cultural development. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

ART 121 Design I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the elements and principles of design as applied to two-dimensional art. Emphasis is placed on the structural elements, the principles of visual organization, and the theories of color mixing and interaction. Upon completion, students should be able to understand and use critical and analytical approaches as they apply to two-dimensional visual art. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 122 Design II (0-6-0-3)

Prerequisites: ART 121

Corequisites: None

This course introduces basic studio problems in three-dimensional visual design. Emphasis is placed on the structural elements and organizational principles as applied to mass and space. Upon completion, students should be able to apply three dimensional design concepts. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 131 Drawing I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the language of drawing and the use of various drawing materials. Emphasis is placed on drawing techniques, media, and graphic principles. Upon completion, students should be able to demonstrate competence in the use of graphic form

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and various drawing processes. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 132 Drawing II (0-6-0-3)

Prerequisites: ART 131

Corequisites: None

This course continues instruction in the language of drawing and the use of various materials. Emphasis is placed on experimentation in the use of drawing techniques, media, and graphic materials. Upon completion, students should be able to demonstrate increased competence in the expressive use of graphic form and techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 135 Figure Drawing I (0-6-0-3)

Prerequisites: ART 131

Corequisites: None

This course introduces rendering the human figure with various drawing materials. Emphasis is placed on the use of the visual elements, anatomy, and proportion in the representation of the draped and undraped figure. Upon completion, students should be able to demonstrate competence in drawing the human figure. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 171 Computer Art I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the use of the computer as a tool for solving visual problems. Emphasis is placed on fundamentals of computer literacy and design through bit-mapped image manipulation. Upon completion, students should be able to demonstrate an understanding of paint programs, printers, and scanners to capture, manipulate, and output images. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 212 Gallery Assistantship I (0-2-0-1)

Prerequisites: None

Corequisites: None

This course covers the practical application of display techniques. Emphasis is placed on preparation of artwork for installation, hardware systems, and exhibition graphics. Upon completion, students should be able to demonstrate basic gallery exhibition skills. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 213 Gallery Assistantship II (0-2-0-1)

Prerequisites: ART 212

Corequisites: None

This course provides additional experience in display techniques. Emphasis is placed on preparation of artwork for exhibition, alternative methods of installation, hardware systems, and exhibition graphics.

Upon completion, students should be able to demonstrate independent decision-making and exhibition expertise. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 214 Portfolio and Resume (0-2-0-1)

Prerequisites: None

Corequisites: None

This course covers resume writing, interview skills, and the preparation and presentation of an art portfolio. Emphasis is placed on the preparation of a portfolio of original artwork, the preparation of a photographic portfolio, approaches to resume writing, and interview techniques. Upon completion, students should be able to mount original art for portfolio presentation, photograph and display a professional slide portfolio, and write an effective resume. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 222 Wood Design I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the historical and contemporary design concepts and their application to the construction of functional and sculptural wood forms. Emphasis is placed on the mastery of hand and power tools. Upon completion, students should be able to demonstrate appropriate use of tools to create unique designs. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 223 Wood Design (0-6-0-3)

Prerequisites: ART 222

Corequisites: None

This course provides a continuation of the skills and techniques used in ART 222. Emphasis is placed on woodcarving and other processes. Upon completion, students should be able to use original designs in the creation of functional and sculptural forms. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 231 Printmaking I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces printmaking: its history, development techniques, and processes. Emphasis is placed on basic applications with investigation into image source and development. Upon completion, students should be able to produce printed images utilizing a variety of methods. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 232 Printmaking II (0-6-0-3)

Prerequisites: ART 231

Corequisites: None

This course includes additional methods and print-making processes. Emphasis is placed on the printed image as related to method, source, and concept. Upon completion, students should be able to produce expressive images utilizing both traditional and innovative methods. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 240 Painting I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the language of painting and the use of various painting materials. Emphasis is placed on the understanding and use of various painting techniques, media, and color principles. Upon completion, students should be able to demonstrate competence in the use of creative processes directed toward the development of expressive form. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 241 Painting II (0-6-0-3)

Prerequisites: ART 240

Corequisites: None

This course provides a continuing investigation of the materials, processes, and techniques of painting. Emphasis is placed on the exploration of expressive content using a variety of creative processes. Upon completion, students should be able to demonstrate competence in the expanded use of form and variety. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 244 Watercolor (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces basic methods and techniques used in watercolor. Emphasis is placed on application, materials, content, and individual expression. Upon completion, students should be able to demonstrate a variety of traditional and nontraditional concepts used in watercolor media. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 247 Jewelry I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces a basic understanding of the design and production of jewelry. Emphasis is placed on concepts and techniques using metals and other materials. Upon completion, students should be able to demonstrate an ability to use appropriate methods to create unique jewelry. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 248 Jewelry II (0-6-0-3)

Prerequisites: ART 247

Corequisites: None

This course is a continuation of the skills learned in ART 247. Emphasis is placed on the creation of individual designs that utilize a variety of techniques such as casting, cloisonne, and plique a-jour. Upon completion, students should be able to create jewelry which demonstrates originality. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 250 Surface Design: Textiles (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic principles and elements of art as applied to textile surfaces. Emphasis is placed on direct, top-dyed processes that utilize both synthetic and natural dyes, and techniques such as batik, stenciling, and stamping. Upon completion, students should be able to demonstrate a basic understanding of appropriate materials and techniques as they apply to original design on a variety of textile surfaces. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 260 Photography Appreciation (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the origins and historical development of photography. Emphasis is placed on the study of composition and history of photography as an art form. Upon completion, students should be able to recognize and produce, using color transparencies, properly exposed, well-composed photographs. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 261 Photography I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces photographic equipment, theory, and processes. Emphasis is placed on camera operation, composition, darkroom technique, and creative expression. Upon completion, students should be able to successfully expose, develop, and print a well-conceived composition. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 262 Photography II (0-6-0-3)

Prerequisites: ART 261

Corequisites: None

This course introduces the creative manipulation of alternative photographic materials and processes such as toning, hand coloring, infrared, and multiple exposure. Emphasis is placed on personal vision and modes of seeing. Upon completion, students should be able to create properly exposed images using a variety of photographic materials and processes. *This*

Course Descriptions

course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ART 264 Digital Photography I (1-4-0-3)

Prerequisites: None

Corequisites: None

This course introduces digital photographic equipment, theory and processes. Emphasis is placed on camera operation, composition, computer photo manipulation and creative expression. Upon completion, students should be able to successfully expose, digitally manipulate, and print a well-conceived composition. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 265 Digital Photography II (1-4-0-3)

Prerequisites: ART 264

Corequisites: None

This course provides exploration of the concepts and processes of photo manipulation through complex composite images, special effects, color balancing and image/text integration. Emphasis is placed on creating a personal vision and style. Upon completion, students should be able to produce well-executed images using a variety of photographic and photo manipulative approaches. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 271 Computer Art II (0-6-0-3)

Prerequisites: ART 171

Corequisites: None

This course includes advanced computer imaging techniques. Emphasis is placed on creative applications of digital technology. Upon completion, students should be able to demonstrate command of computer systems and applications to express their personal vision. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 275 Intro to Commercial Art (0-6-0-3)

Prerequisites: None

Corequisites: None

This course introduces the materials and techniques used in creative layout design for publication. Emphasis is placed on design for advertising in a variety of techniques and media including computer graphics. Upon completion, students should be able to demonstrate competence in manual camera ready layout design and computer graphics literacy. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 281 Sculpture I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course provides an exploration of the creative and technical methods of sculpture with focus on the

traditional processes. Emphasis is placed on developing basic skills as they pertain to three dimensional expression in various media. Upon completion, students should be able to show competence in variety of sculptural approaches. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 282 Sculpture II (0-6-0-3)

Prerequisites: ART 281

Corequisites: None

This course builds on the visual and technical skills learned in ART 281. Emphasis is placed on developing original solutions to sculptural problems in a variety of media. Upon completion, students should be able to express individual ideas using the techniques and materials of sculpture. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 283 Ceramics I (0-6-0-3)

Prerequisites: None

Corequisites: None

This course provides an introduction to three dimensional design principles using the medium of clay. Emphasis is placed on fundamentals of forming, surface design, glaze application, and firing. Upon completion, students should be able to demonstrate skills in slab and coil construction, simple wheel forms, glaze technique, and creative expression. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 284 Ceramics II (0-6-0-3)

Prerequisites: ART 283

Corequisites: None

This course covers advanced hand building and wheel techniques. Emphasis is placed on creative expression, surface design, sculptural quality, and glaze effect. Upon completion, students should be able to demonstrate a high level of technical competence in forming and glazing with a development of three-dimensional awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 285 Ceramics III (0-6-0-3)

Prerequisites: ART 284

Corequisites: None

This course provides the opportunity for advanced self-determined work in sculptural and functional ceramics. Emphasis is placed on developing the technical awareness of clay bodies, slips, engobes, and firing procedures necessary to fulfill the student's artistic goals. Upon completion, students should be able to demonstrate a knowledge of materials and techniques necessary to successfully create original projects in the clay medium. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 286 Ceramics IV (0-6-0-3)

Prerequisites: ART 285

Corequisites: None

This course provides the opportunity for self-determined work in sculptural and functional ceramics. Emphasis is placed on developing the technical awareness of glaze materials, glaze formulation, and firing techniques necessary to fulfill the student's artistic goals. Upon completion, students should be able to demonstrate knowledge of materials and techniques necessary to successfully create original projects in the clay medium. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ART 288 Studio (0-6-0-3)

Prerequisites: None

Corequisites: None

This course provides the opportunity for advanced self-determined work beyond the limits of regular studio course sequences. Emphasis is placed on creative self-expression and in-depth exploration of techniques and materials. Upon completion, students should be able to create original projects specific to media, materials, and techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ASTRONOMY

AST 111 Descriptive Astronomy (3-0-0-3)

Prerequisites: MAT 070 and RED 090

Corequisites: AST 111A

This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

AST 111A Descriptive Astronomy Lab (0-2-0-1)

Prerequisites: None

Corequisites: AST 111

The course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

AUTOMATION TRAINING

ATR 112 Intro to Automation (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic principles of automated manufacturing and describes the tasks that technicians perform on the job. Topics include the history, development, and current applications of

robots and automated systems including their configuration, operation, components, and controls. Upon completion, students should be able to understand the basic concepts of automation and robotic systems. Additional topics include automated assembly systems and production economics.

ATR 211 Robot Programming (2-3-0-3)

Prerequisites: None

Corequisites: None

This course provides the operational characteristics of industrial robots and programming in their respective languages. Topics include robot programming utilizing teach pendants, PLCs, and personal computers; and the interaction of external sensors, machine vision, network systems, and other related devices. Upon completion, students should be able to program and demonstrate the operation of various robots. Additional topics include artificial intelligence simulation and offline programming.

AUTOMOTIVE TECHNOLOGY

AUT 110 Intro to Auto Technology (2-2-0-3)

Prerequisites: None

Corequisites: None

This course covers workplace safety, hazardous material and environmental regulations, use of hand tools, service information resources, basic concepts, systems, and terms of automotive technology. Topics include familiarization with vehicle systems along with identification and proper use of various automotive hand and power tools. Upon completion, students should be able to describe safety and environmental procedures, terms associated with automobiles, identify and use basic tools and shop equipment.

AUT 113 Automotive Servicing I (0-6-0-2)

Prerequisites: None

Corequisites: None

This course is a lab used as an alternative to co-op placement. Emphasis is placed on shop operations, troubleshooting, testing, adjusting, repairing, and replacing components using appropriate test equipment and service information. Upon completion, students should be able to perform a variety of automotive repairs using proper service procedures and to operate appropriate equipment.

AUT 114 Safety and Emissions (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers the laws, procedures, and specifications needed to perform a North Carolina State Safety and Emissions inspection. Topics include brake, steering and suspension, lighting, horn, windshield wiper, tire, mirrors, and emission control devices inspection. Upon completion, students should be able to perform complete and thorough North Carolina State Safety and Emissions inspections.

AUT 114A Safety and Emissions Lab (0-2-0-1)

Prerequisites: None

Corequisites: AUT 114

This course is an optional lab that allows students to enhance their understanding of North Carolina State

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Emissions Inspection failures. Topics include evaporative, positive crankcase ventilation, exhaust gas recirculation and exhaust emissions systems operation, including catalytic converter failure diagnosis. Upon completion, students should be able to employ diagnostic strategies to repair vehicle emissions failures resulting from North Carolina State Emissions inspection.

AUT 116 Engine Repair (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers the theory, construction, inspection, diagnosis, and repair of internal combustion engines and related systems. Topics include fundamental operating principles of engines and diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information.

AUT 116A Engine Repair Lab (0-3-0-1)

Prerequisites: None

Corequisites: AUT 116

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include diagnosis, inspection, adjustment, and repair of automotive engines using appropriate service information. Upon completion, students should be able to perform basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information.

AUT 141 Suspension & Steering System (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers principles of operation, types, and diagnosis/repair of suspension and steering systems to include steering geometry. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair steering and suspension components, check and adjust various alignment angles, repair tires, and balance wheels.

AUT 141A Suspension & Steering Lab (0-3-0-1)

Prerequisites: None

Corequisites: AUT 141

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include manual and power steering systems and standard and electronically controlled suspension and steering systems. Upon completion, students should be able to service and repair steering and suspension components, check and adjust alignment angles, repair tires, and balance wheels.

AUT 151 Brake Systems (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers principles of operation and types, diagnosis, service, and repair of brake systems.

Topics include drum and disc brakes involving hydraulic, vacuum boost, hydra-boost, electrically powered boost, and anti-lock and parking brake systems. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.

AUT 151A Brakes Systems Lab (0-3-0-1)

Prerequisites: None

Corequisites: AUT 151

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include drum and disc brakes involving hydraulic, vacuum-boost, hydra-boost, electrically powered boost, and anti-lock, parking brake systems and emerging brake systems technologies. Upon completion, students should be able to diagnose, service, and repair various automotive braking systems.

AUT 161 Basic Auto Electricity (4-3-0-5)

Prerequisites: None

Corequisites: None

This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of batteries, starters, and alternators. Topics include Ohm's Law, circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and electrical concerns.

AUT 163 Adv. Auto Electricity (2-3-0-3)

Prerequisites: AUT 161

Corequisites: None

This course covers electronic theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of electronics, lighting, gauges, horn, wiper, accessories, and body modules. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, and troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.

AUT 171 Auto Climate Control (2-4-0-4)

Prerequisites: None

Corequisites: None

This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis/repair of climate control systems. Topics include diagnosis and repair of climate control components and systems, recovery/recycling of refrigerants, and safety and environmental regulations. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information.

AUT 181 Engine Performance I (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers the principles, systems, and procedures required for diagnosing and restoring engine performance using electrical/electronics test equipment. Topics include procedures for diagnosis and

repair of ignition, emission control, and related electronic systems. Upon completion, students should be able to describe operation of and diagnose/repair ignition/emission control systems using appropriate test equipment and service information.

AUT 181A Engine Performance 1 Lab (0-3-0-1)

Prerequisites: None

Corequisites: AUT 181

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include overviews of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices and emerging engine performance technologies. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related drivability problems using appropriate test equipment/ service information.

AUT 183 Engine Performance 2 (2-6-0-4)

Prerequisites: AUT 181

Corequisites: None

This course covers study of the electronic engine control systems, the diagnostic process used to locate engine performance concerns, and procedures used to restore normal operation. Topics will include currently used fuels and fuel systems, exhaust gas analysis, emission control components and systems, OBD II (on-board diagnostics) and inter-related electrical/electronic systems. Upon completion, students should be able to diagnose and repair complex engine performance concerns using appropriate test equipment and service information.

AUT 221 Auto Transm/Transaxles (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers operation, diagnosis, service, and repair of automatic transmissions/transaxles. Topics include hydraulic, pneumatic, mechanical, and electrical/ electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair automatic drive trains.

AUT 221A Auto Transm/Transax Lab (0-3-0-1)

Prerequisites: None

Corequisites: AUT 221

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include hydraulic, pneumatic, mechanical, and electrical/electronic operation of automatic drive trains and the use of appropriate service tools and equipment. Upon completion, students should be able to diagnose and repair automatic drive trains.

AUT 231 Man Trans/Axles/Drtrains (2-4-0-4)

Prerequisites: None

Corequisites: None

This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, drive shafts, axles, and final drives. Topics include

theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory and diagnose and repair manual drive trains.

AUT 231A Man Trans/Ax/Drtrains Lab (0-3-0-1)

Prerequisites: None

Corequisites: AUT 231

This course is an optional lab for the program that needs to meet NATEF hour standards but does not have a co-op component in the program. Topics include manual drive train diagnosis, service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to diagnose and repair manual drive trains.

AUT 281 Adv Engine Performance (2-2-0-3)

Prerequisites: None

Corequisites: None

This course utilizes service information and specialized test equipment to diagnose and repair power train control systems. Topics include computerized ignition, fuel and emission systems, related diagnostic tools and equipment, data communication networks, and service information. Upon completion, students should be able to perform diagnosis and repair.

BANKING AND FINANCE

BAF 143 Financial Planning (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the perspectives, principles, and practices of financial planning. Topics include investment, retirement, tax, and estate planning. Upon completion, students should be able to understand the process that looks at a customer's financial picture and recommend strategies to achieve the customer's objectives.

BIOLOGY

BIO 110 Principles of Biology (3-3-0-4)

Prerequisites: RED 090 and SCI 090 or departmental approval or appropriate test scores

Corequisites: None

This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, taxonomy, evolution, ecology, diversity, and other related topics. Upon completion, students should be able to demonstrate increased knowledge and better understanding of biology as it applies to everyday life. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

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BIO 111 General Biology I (3-3-0-4)

Prerequisites: RED 090 and SCI 090 or departmental approval or appropriate test scores

Corequisites: None

This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, cell structure and function, metabolism and energy transformation, genetics, evolution, classification, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

BIO 112 General Biology II (3-3-0-4)

Prerequisites: BIO 111

Corequisites: None

This course is a continuation of BIO 111. Emphasis is placed on organisms, biodiversity, plant and animal systems, ecology, and other related topics. Upon completion, students should be able to demonstrate comprehension of life at the organismal and ecological levels. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

BIO 120 Introductory Botany (3-3-0-4)

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of plants. Topics include reproduction and development of seed and non-seed plants, levels of organization, form and function of systems, and a survey of major taxa. Upon completion, students should be able to demonstrate comprehension of plant form and function, including selected taxa of both seed and non-seed plants. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

BIO 130 Introductory Zoology (3-3-0-4)

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

BIO 140 Environmental Biology (3-0-0-3)

Prerequisites: RED 090

Corequisites: BIO 140A

This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

BIO 140A Environmental Biology Lab (0-3-0-1)

Prerequisites: None

Corequisites: BIO 140

This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

BIO 146 Regional Natural History (3-3-0-4)

Prerequisites: RED 090

Corequisites: None

This course is an interdisciplinary and historical analysis of the natural resources of the region. Emphasis is placed on geology, climate, forest systems, watersheds, water resources, and fish and wildlife resources of the region. Upon completion, students should be able to demonstrate comprehension of the natural history and the integration of the natural resources of the region. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 150 Genetics in Human Affairs (3-0-0-3)

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course describes the importance of genetics in everyday life. Topics include the role of genetics in human development, birth defects, cancer and chemical exposure, and current issues including genetic engineering and fertilization methods. Upon completion, students should be able to understand the relationship of genetics to society today and its possible influence on our future. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

BIO 155 Nutrition (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers the biochemistry of foods and nutrients with consideration of the physiological effects of specialized diets for specific biological needs. Topics include cultural, religious, and economic factors that influence a person's acceptance of

food as well as nutrient requirements of the various life stages. Upon completion, students should be able to identify the functions and sources of nutrients, the mechanisms of digestion, and the nutritional requirements of all age groups. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 163 Basic Anat & Physiology (4-2-0-5)

Prerequisites: RED 090 and SCI 090 or departmental approval or appropriate test scores

Corequisites: None

This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion, students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 165 Anatomy and Physiology I (3-3-0-4)

Prerequisites: RED 090

Corequisites: None

This course is the first of a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. *This course has been approved for transfer through the Comprehensive Articulation Agreement. This course is also available through the Virtual Learning Community (VLC).*

BIO 166 Anatomy and Physiology II (3-3-0-4)

Prerequisites: BIO 165

Corequisites: None

This course is the second in a two-course sequence which provides a comprehensive study of the anatomy and physiology of the human body. Topics include the structure, function, and interrelationship of organ systems with emphasis on the processes which maintain homeostasis. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and the interrelationships of all body systems. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 168 Anatomy and Physiology I (3-3-0-4)

Prerequisites: RED 090 and SCI 090 or departmental approval or appropriate test scores

Corequisites: None

This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, nervous and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. *This course has*

been approved for transfer through the Comprehensive Articulation Agreement.

BIO 169 Anatomy and Physiology II (3-3-0-4)

Prerequisites: BIO 168

Corequisites: None

This course provides a continuation of the comprehensive study of the anatomy and physiology of the human body. Topics include the endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems as well as metabolism, nutrition, acid-base balance, and fluid and electrolyte balance. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 175 General Microbiology (2-2-0-3)

Prerequisites: BIO 110 or BIO 111 or BIO 163

or BIO 166 or BIO 169

Corequisites: None

This course covers principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 250 Genetics (3-3-0-4)

Prerequisites: BIO 112

Corequisites: None

This course covers principles of prokaryotic and eukaryotic cell genetics. Emphasis is placed on the molecular basis of heredity, chromosome structure, patterns of Mendelian and non-Mendelian inheritance, evolution, and biotechnological applications. Upon completion, students should be able to recognize and describe genetic phenomena and demonstrate knowledge of important genetic principles. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

BIO 271 Pathophysiology (3-0-0-3)

Prerequisites: BIO 163 or BIO 166 or BIO 169

Corequisites: None

This course provides an in-depth study of human pathological processes and their effects on homeostasis. Emphasis is placed on interrelationships among organ systems in deviations from homeostasis. Upon completion, students should be able to demonstrate a detailed knowledge of pathophysiology. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 275 Microbiology (3-3-0-4)

Prerequisites: BIO 110 or BIO 111 or BIO 163

or BIO 165 or BIO 168

Corequisites: None

This course covers principles of microbiology and the impact these organisms have on man and the

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environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical applications. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, and identification of microorganisms. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BIO 280 Biotechnology (2-3-0-3)

Prerequisites: BIO 111 or CHM 151

Corequisites: None

This course provides experience in selected laboratory procedures. Topics include proper laboratory techniques in biology and chemistry. Upon completion, students should be able to identify laboratory techniques and instrumentation in basic biotechnology. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

BIO 293 Selected Topics in Biology (3-3-0-3)

Prerequisite: None

Corequisite: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

BIOPROCESS MANUFACTURING TECHNOLOGY

BPM 110 Bioprocess Practices (3-4-0-5)

Prerequisites: None

Corequisites: None

This course provides a study of plant operations including various plant utility systems and detailed study of the varied plant environments in a bioprocessing facility. Emphasis is placed on quality mindset and principles of validation through applications of monitoring procedures. Upon completion, students should be able to demonstrate the rigors of industry regulation and its necessity.

BLUEPRINT READING

BPR 111 Blueprint Reading (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces the basic principles of blueprint reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic blueprints and visualize the features of a part. *This course is also available through Virtual Learning Community (VLC).*

BPR 121 Blueprint Reading: Mech (1-2-0-2)

Prerequisites: BPR 111 or MAC 131

Corequisites: None

This course covers the interpretation of intermediate blueprints. Topics include tolerancing, auxiliary

views, sectional views, and assembly drawings. Upon completion, students should be able to read and interpret a mechanical working drawing.

BPR 130 Blueprint Reading/Const (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers the interpretation of blueprints and specifications that are associated with the construction trades. Emphasis is placed on interpretation of details for foundations, floor plans, elevations, and schedules. Upon completion, students should be able to read and interpret a set of construction blueprints.

BPR 221 Interpretation of GD & T (2-0-0-2)

Prerequisites: BPR 121 or MAC 132

Corequisites: None

This course introduces dimensioning and tolerancing standards as established by ANSI and ISO 9000. Topics include dimensioning, symbols and terms, application of tolerances and limits, tolerances of position and form, and the advantages of geometric concepts. Upon completion, students should be able to interpret blueprints that utilize the GD & T system.

BOTANY - See Biology

BROADCASTING

BPT 110 Intro to Broadcasting (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the field of broadcasting and other electronic media. Emphasis is placed on the history, development, and current status of radio, television, and related industries. Upon completion, students should be able to demonstrate knowledge of regulations, organizational structure, revenue sources, historical development, and on-going operation of broadcasting and related industries.

BPT 111 Broadcast Law & Ethics (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers judicial, legislative, and administrative policies pertinent to the ethical and legal operation of broadcast and other electronic media organizations. Emphasis is placed on legal and ethical issues including First Amendment protection, FCC regulations, copyright, and libel laws. Upon completion, students should be able to demonstrate an understanding of the historical significance and modern-day application of important broadcast laws and policies.

BPT 112 Broadcast Writing (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces proper copy and script writing techniques and formats for radio, television, and other electronic media. Emphasis is placed on creating effective scripts for programs and promotional materials, including commercial and public radio service announcements for a specific target audience. Upon completion, students should be able to understand and write copy and scripts according to standard industry formats.

BPT 113 Broadcast Sales (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers sales principles applicable to radio, television, cable, and other electronic media. Emphasis is placed on prospecting and servicing accounts, developing clients, and preparing sales presentations. Upon completion, students should be able to create a sales presentation based upon standard ratings reports, prospect for new customers, and understand account management.

BPT 115 Public Relations (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the art and science of analyzing trends, predicting their consequences, counseling organizations, and implementing actions to serve organizational and public interests. Emphasis is placed on identifying public needs, conducting and analyzing research, writing and communicating information, maintaining media relations, and creating an organizational crisis plan. Upon completion, students should be able to summarize public relations history, conduct research, develop press releases, create printed material, and formulate a crisis plan.

BPT 121 Broadcast Speech I (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers basic preparation and performance of on-air talents' speaking quality. Emphasis is placed on developing a pleasant and efficient voice with techniques applied to taped news, features, commercial copy, and announcing. Upon completion, students should be able to show improvement and aptitude in proper articulation, pronunciation, rate of delivery, pitch, breathing techniques, inflection, projection, and phrasing.

BPT 122 Broadcast Speech II (2-3-0-3)

Prerequisites: BPT 121

Corequisites: None

This course covers basic and advanced preparation and performance of on-air speech. Emphasis is placed on enhancing a pleasant, effective voice with techniques applied to impromptu speaking, radio plays, and taped presentations. Upon completion, students should be able to employ proper articulation, pronunciation, rate of delivery, phrasing, and other voice techniques in a professional manner.

BPT 131 Audio/Radio Production I (2-6-0-4)

Prerequisites: None

Corequisites: None

This course covers the creation, development, production, and presentation of audio programming elements for broadcast and/or other electronic media applications. Emphasis is placed on the proper operation of professional audio equipment and the study of basic physical behavior and perceptual effects of sound. Upon completion, students should be able to correctly operate audio recording and playback equipment and demonstrate an understanding of the basic components of sound.

BPT 132 Audio/Radio Production II (2-6-0-4)

Prerequisites: BPT 131

Corequisites: None

This course covers the use of advanced audio production techniques in broadcast and/or other electronic media applications. Topics include basic audio signal processing equipment and analog and digital professional audio recording and playback equipment. Upon completion, students should be able to optimize the use of professional audio equipment in the production of effective audio programming.

BPT 135 Radio Performance I (0-6-0-2)

Prerequisites: None

Corequisites: None

This course provides an opportunity to operate the college radio station as an announcer/board operator. Emphasis is placed on operating control-room equipment, logging transmitter readings, EBS tests, reading news, and broadcasting free of interruptions. Upon completion, students should be able to prepare music, public service announcements, and promos for timely broadcast; introduce songs/programs smoothly; and follow FCC rules.

BPT 136 Radio Performance II (0-6-0-2)

Prerequisites: BPT 135

Corequisites: None

This course provides an opportunity to operate the college radio station as an announcer/board operator. Emphasis is placed on operating control-room equipment, logging transmitter readings, EBS tests, reading news, and broadcasting free of interruptions. Upon completion, students should be able to prepare music, public service announcements, and promos for timely broadcast; introduce songs/programs smoothly; and follow FCC rules.

BPT 137 Radio Performance III (0-6-0-2)

Prerequisites: BPT 136

Corequisites: None

This course provides an opportunity to operate the college radio station as an announcer/board operator. Emphasis is placed on operating control-room equipment, logging transmitter readings, EBS tests, reading news, and broadcasting free of interruptions. Upon completion, students should be able to prepare music, public service announcements, and promos for timely broadcast; introduce songs/programs smoothly; and follow FCC rules.

BPT 138 Radio Performance IV (0-6-0-2)

Prerequisites: BPT 137

Corequisites: None

This course provides an opportunity to operate the college radio station as an announcer/board operator. Emphasis is placed on operating control-room equipment, logging transmitter readings, EBS tests, reading news, and broadcasting free of interruptions. Upon completion, students should be able to prepare music, public service announcements, and promos for timely broadcast; introduce songs/programs smoothly; and follow FCC rules.

Course Descriptions

BPT 139 Radio Performance V (0-6-0-2)

Prerequisites: BPT 138

Corequisites: None

This course provides an opportunity to operate the college radio station as an announcer/board operator. Emphasis is placed on operating control-room equipment, logging transmitter readings, EBS tests, reading news, and broadcasting free of interruptions. Upon completion, students should be able to prepare music, public service announcements, and promos for timely broadcast; introduce songs/programs smoothly; and follow FCC rules.

BPT 191 Selected Topics in Broadcasting Production Technology (1-0-0-1)

Prerequisites: BPT 110 and two of the following:

BPT 111, 112, or 113

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

BPT 196 Seminar in Institutional Video Production (0-1-0-1)

Prerequisites: BPT 231 and BPT 232

Corequisites: None

This course provides an opportunity to explore topics of current interest. Emphasis is placed on the development of critical listening skills and the presentation of seminar issues. Upon completion, students should be able to critically analyze issues and establish informed opinions.

BPT 210 Broadcast Management (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers management duties within the fields of broadcasting and other electronic media. Emphasis is placed on the management of broadcast stations and cable systems, including financial, personnel, news, sales, and promotion management. Upon completion, students should be able to demonstrate knowledge of successful station operation, including key management concepts and strategies.

BPT 215 Broadcast Programming (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers programming methods, research, and resources needed to provide programs for radio, television, cable, and satellite target audiences. Topics include market research and analysis; local, network, and public station programming and program sources; and scheduling procedures for electronic media. Upon completion, students should be able to develop a programming format or schedule.

BPT 220 Broadcast Marketing (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces broadcast marketing, including cultivating an audience, building an identity, and servicing customers. Topics include the use of effective promotional tools, marketing research, rating analysis, and the development of a unified marketing

plan. Upon completion, students should be able to develop a broadcast marketing plan.

BPT 231 Video/TV Production I (2-6-0-4)

Prerequisites: None

Corequisites: None

This course covers the language of film/video, shot composition, set design, lighting, production planning, scripting, editing, and operation of video and television production equipment. Emphasis is placed on mastering the body of knowledge and techniques followed in producing all forms of video and television production. Upon completion, students should be able to produce basic video and television productions in a team environment.

BPT 232 Video/TV Production II (2-6-0-4)

Prerequisites: BPT 231

Corequisites: None

This course covers advanced video and television production. Emphasis is placed on field production, post-production, digital video effects, graphics, and multi-camera productions. Upon completion, students should be able to create productions that optimize the use of studio, field, and post-production equipment.

BPT 235 TV Performance I (0-6-0-2)

Prerequisites: None

Corequisites: None

This course provides hands-on experience in the operation of television studios and/or stations. Emphasis is placed on the application of skills through direct participation in the production or distribution of television programs. Upon completion, students should be able to demonstrate competence in performing key station and/or studio duties.

BPT 236 TV Performance II (0-6-0-2)

Prerequisites: BPT 235

Corequisites: None

This course provides hands-on experience in the operation of television studios and/or stations. Emphasis is placed on the application of skills through direct participation in the production or distribution of television programs. Upon completion, students should be able to demonstrate competence in performing key station and/or studio duties.

BPT 241 Broadcast Journalism I (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces broadcast journalism, including the gathering, writing, delivery, editing, and production of news stories and reports. Emphasis is placed on proper news writing skills, including the creation of good leads and complete stories in the production of radio voicers and reports. Upon completion, students should be able to write broadcast news scripts and produce radio news reports and newscasts.

BPT 242 Broadcast Journalism II (3-2-0-4)

Prerequisites: BPT 241

Corequisites: None

This course provides an opportunity to gather, write, edit, and produce broadcast news reports. Emphasis is placed on producing professional broadcast news

reports, including script writing, gathering, and editing. Upon completion, students should be able to produce and record professional broadcast news stories.

BPT 250 Institutional Video (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers development and production of non-broadcast video productions for clients. Emphasis is placed on satisfying client objectives, including interviewing, research, site surveying, script review, photography, and post-production. Upon completion, students should be able to plan, write, shoot, and edit an institutional video designed to meet a client's objectives.

BPT 255 Computer-Based Production (2-3-0-3)

Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course covers digital systems used for video, audio, and multimedia production. Emphasis is placed on computer-based tools integrating digital production with analog broadcast-related production. Upon completion, students should be able to understand and operate basic tools for video graphics, video capture, multimedia authoring, sound capture, and digital audio production.

BPT 260 Multi-Track Recording (2-2-0-3)

Prerequisites: BPT 132

Corequisites: None

This course covers the application of audio production techniques in a multi-track recording setting. Emphasis is placed on proper use of control room equipment and mix-down of multiple sound sources on both analog and digital recorders. Upon completion, students should be able to produce creative music or supplemental works using sound engineering techniques.

BIOTECHNOLOGY

BTC 150 Bioethics (3-0-0-3)

Prerequisites: None

Corequisites: RED 090

This course introduces the current ethics issues surrounding the biotechnology industries. Topics will include risk assessment, the relationships between science, technology, and society, and the effects of new biotechnology products upon the natural world. Upon completion, students should be able to demonstrate knowledge and critical thinking skills in decision-making related to bioethical issues.

BTC 181 Basic Lab Techniques (3-3-0-4)

Prerequisites: None

Corequisites: None

This course introduces the basic skills and knowledge necessary in a biological or chemical laboratory. Emphasis is placed on good manufacturing practices, safety, solution preparation, and equipment operation and maintenance following standard operating procedures. Upon completion, students should be able to prepare and perform basic laboratory procedures using labware, solutions, and equipment according to prescribed protocols.

BTC 250 Principles of Genetics (3-0-0-3)

Prerequisites: BIO 111

Corequisites: None

This course covers the basic principles of genetics. Topics will include Mendelian inheritance, gene mapping, molecular genetics, regulation of gene expression, population genetics, quantitative genetics, and the genetics of cancer. Upon completion, students should be able to demonstrate a broad understanding of genetics and the principles of heredity.

BTC 270 Recombinant DNA Tech (3-3-0-4)

Prerequisites: BTC 250 or BIO 250 and BTC 181

Corequisites: None

This course covers basic methods in biotechnology for the manipulation of nucleic acids. Emphasis is placed on topics concerning techniques used in recombinant DNA technology, including PCR, restriction digests, mapping, cloning, and forensics. Upon completion, students should have an understanding of the theory, practice, and application of recombinant DNA techniques.

BTC 281 Bioprocess Techniques (2-6-0-4)

Prerequisites: BTC 181

Corequisites: None

This course covers processes used in the production of biomolecules. Emphasis is placed on the production, characterization, and purification of biological products using fermentation, centrifugation, filtration, electrophoresis, and other techniques used in industry. Upon completion, students should be able to produce biological products using the various methods of bioprocessing.

BTC 285 Cell Culture (2-3-0-3)

Prerequisites: BIO 175 or BIO 275

Corequisites: None

This course introduces the theory and practices required to successfully initiate and maintain plant and animal cell cultures. Topics include aseptic techniques, the growth environment, routine maintenance of cell cultures, specialized culture techniques, and various applications. Upon completion, students should be able to demonstrate the knowledge and skills required to grow, maintain, and manipulate cells in culture.

BTC 286 Immunological Techniques (3-3-0-4)

Prerequisites: BTC 285

Corequisites: None

This course covers the principles and practices of modern immunology, including the interactions between the various cellular and chemical components of the immune response. Topics include antigens, humoral immunity, cellular immunity, complement, immunological assays, and hybridoma use and production. Upon completion, students should be able to discuss the immune response, perform immunological assays, and make monoclonal antibody-producing hybridomas.

BTC 288 Biotech Lab Experience (0-6-0-2)

Prerequisites: BIO 250 or BTC 270 and

BTC 281, BTC 285 or BTC 286

Corequisites: None

This course provides an opportunity to pursue an individual laboratory project in biotechnology.

Course Descriptions

Emphasis is placed on developing, performing, and maintaining records of a project in a specific area of interest. Upon completion, students should be able to complete the project with accurate records and demonstrate an understanding of the process.

BUSINESS

BUS 110 Introduction to Business (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides a survey of the business world. Topics include the basic principles and practices of contemporary business. Upon completion, students should be able to demonstrate an understanding of business concepts as a foundation for studying other business subjects. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BUS 115 Business Law I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the ethics and legal framework of business. Emphasis is placed on contracts, negotiable instruments, Uniform Commercial Code, and the working of the court systems. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BUS 116 Business Law II (3-0-0-3)

Prerequisites: BUS 115

Corequisites: None

This course continues the study of ethics and business law. Emphasis is placed on bailments, sales, risk-bearing, forms of business ownership, and copyrights. Upon completion, students should be able to apply ethical issues and laws covered to selected business decision-making situations.

BUS 121 Business Math (2-2-0-3)

Prerequisites: MAT 060

Corequisites: None

This course covers fundamental mathematical operations and their application to business problems. Topics include payroll, pricing, interest and discount, commission, taxes, and other pertinent uses of mathematics in the field of business. Upon completion, students should be able to apply mathematical concepts to business.

BUS 125 Personal Finance (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides a study of individual and family financial decisions. Emphasis is placed on building useful skills in buying, managing finances, increasing resources, and coping with current economic conditions. Upon completion, students should be able to develop a personal financial plan.

BUS 137 Principles of Management (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is designed to be an overview of the major functions of management. Emphasis is placed on planning, organizing, controlling, directing, and communicating. Upon completion, students should be able to work as contributing members of a team utilizing these functions of management. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

BUS 210 Investment Analysis (3-0-0-3)

Prerequisites: ACC 111 or ACC 120

Corequisites: None

This course examines the concepts related to financial investment and the fundamentals of managing investments. Emphasis is placed on the securities markets, stocks, bond, and mutual funds, as well as tax implications of investment alternatives. Upon completion, students should be able to analyze and interpret investment alternatives and report findings to users of financial information.

BUS 217 Employment Law and Regs (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the principle laws and regulations affecting public and private organizations and their employees or prospective employees. Topics include fair employment practices, EEO, affirmative action, and employee rights and protections. Upon completion, students should be able to evaluate organization policy for compliance and assure that decisions are not contrary to law.

BUS 220 Purchasing (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the purchasing function and explains its role in business. Topics include the legal and ethical aspects of purchasing, quality assurance, and the application of purchasing formulas and methods for cost analysis. Upon completion, students should be able to complete a purchase transaction incorporating legal, ethical, quality, and cost consideration.

BUS 225 Business Finance (2-2-0-3)

Prerequisites: ACC 120

Corequisites: None

This course provides an overview of business financial management. Emphasis is placed on financial statement analysis, time value of money, management of cash flow, risk and return, and sources of financing. Upon completion, students should be able to interpret and apply the principles of financial management.

BUS 230 Small Business Management (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the challenges of entrepreneurship including the startup and operation of a small business. Topics include market research techniques, feasibility studies, site analysis, financing alternatives, and managerial decision making. Upon

completion, students should be able to develop a small business plan.

BUS 231 Computerized Inventory (2-2-0-3)

Prerequisites: ACC 120 and CIS 110 or CIS 111

Corequisites: None

This course provides an overview of inventory procedures as related to management decisions. Emphasis is placed on general terms, methods, techniques, and computer applications. Upon completion, students should be able to apply inventory principles and processes in the workplace.

BUS 234 Training and Development (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers developing, conducting, and evaluating employee training with attention to adult learning principles. Emphasis is placed on conducting a needs assessment, using various instructional approaches, designing the learning environment, and locating learning resources. Upon completion, students should be able to design, conduct, and evaluate a training program.

BUS 256 Recruit Select & Per Plan (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic principles involved in managing the employment process. Topics include personnel planning, recruiting, interviewing and screening techniques, maintaining employee records; and voluntary and involuntary separations. Upon completion, students should be able to acquire and retain employees who match position requirements and fulfill organizational objectives. *This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.*

BUS 258 Compensation and Benefits (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is designed to study the basic concepts of pay and its role in rewarding performance. Topics include wage and salary surveys, job analysis, job evaluation techniques, benefits, and pay-for-performance programs. Upon completion, students should be able to develop and manage a basic compensation system to attract, motivate, and retain employees. *This course is a unique concentration requirement of the Human Resources Management concentration in the Business Administration program.*

BUS 259 HRM Applications (3-0-0-3)

Prerequisites: BUS 217, BUS 234, BUS 256, and BUS 258

Corequisites: None

This course provides students in the Human Resources Management concentration the opportunity to reinforce their learning experiences from preceding HRM courses. Emphasis is placed on application of day-to-day HRM functions by completing in-basket exercises and through simulations. Upon completion, students should be able to determine the appropriate actions called for by typical events that affect the status of people at work. *This course is a unique concentration requirement of the Human*

Resources Management concentration in the Business Administration program.

BUS 260 Business Communication (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course is designed to develop skills in writing business communications. Emphasis is placed on business reports, correspondence, and professional presentations. Upon completion, students should be able to communicate effectively in the work place.

CERAMICS - See Art

COMPUTER ENGINEERING TECHNOLOGY

CET 111 Computer Upgrade/Repair I (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers repairing, servicing, and upgrading computers and peripherals in preparation for industry certification. Topics include CPU/memory/bus identification, disk subsystems, hardware/software installation/configuration, common device drivers, data recovery, system maintenance, and other related topics. Upon completion, students should be able to safely repair and/or upgrade computer systems to perform within specifications.

CET 211 Computer Upgrade/Repair II (2-3-0-3)

Prerequisites: CET 111

Corequisites: None

This course covers concepts of repair service, and upgrade of computers and peripherals in preparation for industry certification. Topics may include resolving resource conflicts and system bus specifications, configuration and troubleshooting peripherals, operating system configuration and optimization, and other related topics. Upon completion, students should be able to identify and resolve system conflicts and optimize system performance.

CET 225 Digital Signal Processing (2-2-0-3)

Prerequisites: None

Corequisites: None

This course covers the theory and use of digital signal processing techniques. Topics include Fourier analysis, digital filtering, Z transforms, IIR, FIR, convolution, pulse methods, and DSP programming. Upon completion, students should be able to implement and troubleshoot DSP systems in hardware and software.

CET 245 Internet Servers (2-3-0-3)

Prerequisites: CIS 147, CIS 246,
(CSC 134 or CSC 148),
and ITN 150

Corequisites: None

This course covers the setup and management of Internet server hardware and software. Topics include TCP/IP, FTP, SMTP, and SNMP; installation and configuration of server software for WWW, FTP, DNS, news, mail, and listserve services; and other topics. Upon completion, students should be able to set up and maintain Internet servers.

Course Descriptions

CHEMISTRY

CHM 092 Fundamentals of Chemistry (3-2-0-4)

Prerequisites: None

Corequisites: MAT 070

This course covers fundamentals of chemistry with laboratory applications. Topics include measurements, matter, energy, atomic theory, bonding, molecular structure, nomenclature, balancing equations, stoichiometry, solutions, acids and bases, gases, and basic organic chemistry. Upon completion, students should be able to understand and apply basic chemical concepts and demonstrate basic laboratory skills necessary for success in college-level science courses.

CHM 121 Foundations of Chemistry (3-0-0-3)

Prerequisites: MAT 070 and RED 090

Corequisites: CHM 121A

This course is designed for those who have no previous high school chemistry or a grade of C or less in high school chemistry. Topics include matter, structure of the atom, nomenclature, chemical equations, bonding and reactions; mathematical topics include measurements, scientific notation, and stoichiometry. Upon completion, students should be able to demonstrate an understanding of chemical concepts and an ability to solve related problems in subsequent chemistry courses.

CHM 121A Foundations of Chem Lab (0-2-0-1)

Prerequisites: None

Corequisites: CHM 121

This course is a laboratory for CHM 121. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 121. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 121.

CHM 130 Gen, Org, & Biochemistry (3-0-0-3)

Prerequisites: MAT 070, RED 090

Corequisites: CHM 130A

This course provides a survey of basic facts and principles of general, organic, and biochemistry. Topics include measurement, molecular structure, nuclear chemistry, solutions, acid-base chemistry, gas laws, and the structure, properties, and reactions of major organic and biological groups. *Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

CHM 130A Gen, Org, & Biochem Lab (0-2-0-1)

Prerequisites: None

Corequisites: CHM 130

This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 130. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

CHM 131 Introduction to Chemistry (3-0-0-3)

Prerequisites: MAT 070 and RED 090

Corequisites: None

This course introduces the fundamental concepts of inorganic chemistry topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. *This course is also available through the Virtual Learning Community (VLC).*

CHM 131A Introduction to Chemistry Lab (0-3-0-1)

Prerequisites: None

Corequisites: CHM 131

This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

CHM 132 Organic and Biochemistry (3-3-0-4)

Prerequisites: CHM 131 and 131A or CHM 151 or Departmental Approval

Corequisites: None

This course provides a survey of major functional classes of compounds in organic and biochemistry. Topics include structure, properties, and reactions of the major organic and biological molecules and basic principles of metabolism. Upon completion, students should be able to demonstrate an understanding of fundamental chemical concepts needed to pursue studies in related professional fields. *This course has been approved to satisfy the comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

CHM 151 General Chemistry 1 (3-3-0-4)

Prerequisites: MAT 161 or MAT 171 or CHM 092 or departmental permission

Corequisites: None

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

CHM 152 General Chemistry II (3-3-0-4)

Prerequisites: CHM 151

Corequisites: None

This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics*

CHM 251 Organic Chemistry I (3-3-0-4)

Prerequisites: CHM 152

Corequisites: None

This course provides a systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of hydrocarbons, alkyl halides, alcohols, and ethers; further topics include isomerization, stereochemistry, and spectroscopy. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of covered organic topics as needed in CHM 252. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

CHM 252 Organic Chemistry II (3-3-0-4)

Prerequisites: CHM 251

Corequisites: None

This course provides continuation of the systematic study of the theories, principles, and techniques of organic chemistry. Topics include nomenclature, structure, properties, reactions, and mechanisms of aromatics, aldehydes, ketones, carboxylic acids and derivatives, amines and heterocyclics; multi-step synthesis will be emphasized. Upon completion, students should be able to demonstrate an understanding of organic concepts as needed to pursue further study in chemistry and related professional fields. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

CHM 261 Quantitative Analysis (2-6-0-4)

Prerequisites: CHM 152

Corequisites: None

This course introduces classical methods of chemical analysis with an emphasis on laboratory techniques. Topics include statistical data treatment; stoichiometric and equilibrium calculations; and titrimetric, gravimetric, acid-base, oxidation-reduction, and compleximetric methods. Upon completion, students should be able to perform classical quantitative analytical procedures. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

COMPUTER INFORMATION SYSTEMS

CIS 110 Introduction to Computers (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CIS 111 Basic PC Literacy (1-2-0-2)

Prerequisites: None

Corequisites: None

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. *This course is also available through the Virtual Learning Community (VLC).*

CIS 115 Intro to Prog & Logic (2-3-0-3)

Prerequisites: MAT 070

Corequisites: None

This course introduces computer programming and problem solving in a structured program logic environment. Topics include language syntax, data types, program organization, problem solving methods, algorithm design, and logic control structures. Upon completion, students should be able to manage files with operating system commands, use top-down algorithm design, and implement algorithmic solutions in a programming language. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural science/mathematics.*

CIVIL ENGINEERING TECHNOLOGY

CIV 110 Statics/Strength of Materials (2-6-0-4)

Prerequisites: PHY 131 and MAT 121

Corequisites: MAT 122

This course includes vector analysis, equilibrium of force systems, friction, sectional properties, stress/strain, and deformation. Topics include resultants and components of forces, moments and couples, free-body diagrams, shear and moment diagrams, trusses, frames, beams, columns, connections, and combined stresses. Upon completion, students should be able to analyze simple structures.

CIV 111 Soils and Foundations (2-3-0-3)

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course presents an overview of soil as a construction material using both analysis and testing procedures. Topics include index properties, classification, stress analysis, compressibility, compaction,

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dewatering, excavation, stabilization, settlement, and foundations. Upon completion, students should be able to perform basic soil tests and analyze engineering properties of soil. Oral and written communication skills will be emphasized.

CIV 125 Civil/Surveying CAD (1-6-0-3)

Prerequisites: SRV 110

Corequisites: None

This course introduces civil/surveying computer-aided drafting (CAD) software. Topics include drawing, editing, and dimensioning commands; plotting; and other related civil/surveying topics. Upon completion, students should be able to produce civil/surveying drawings using CAD software.

CIV 210 Engineering Materials (1-3-0-2)

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course covers the behavior and properties of Portland cement and asphaltic concretes and laboratory and field testing. Topics include cementing agents and aggregates; water and admixtures; proportioning, production, placing, consolidation, and curing; and inspection methods. Upon completion, students should be able to proportion concrete mixes to attain predetermined strengths and other properties and perform standard control tests. Oral and written communication skills will be emphasized.

CIV 211 Hydraulics and Hydrology (2-3-0-3)

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course introduces the basic engineering principles and characteristics of hydraulics and hydrology. Topics include precipitation and runoff, fluid statics and dynamics, flow measurement, and pipe and open channel flow. Upon completion, students should be able to analyze and size drainage structures.

CIV 212 Environmental Planning (2-3-0-3)

Prerequisites: CIV 211

Corequisites: None

This course covers water and wastewater technology, erosion and sedimentation control, and other related topics. Topics include collection, treatment, and distribution of water and wastewater and erosion and sedimentation control law. Upon completion, students should be able to demonstrate knowledge of water and wastewater systems and prepare erosion and sedimentation control plans.

CIV 215 Highway Technology (1-3-0-2)

Prerequisites: SRV 111

Corequisites: CIV 211

This course introduces the essential elements of roadway components and design. Topics include sub-grade and pavement construction, roadway drawings and details, drainage, superelevation, and North Carolina Department of Transportation Standards. Upon completion, students should be able to use roadway drawings and specifications to develop superelevation, drainage, and general highway construction details.

CIV 220 Basic Structural Concepts (1-3-0-2)

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course covers the historical perspective of structures as well as types, materials, common elements, and mechanical principles of structures. Topics include basic structure shapes, advantages and disadvantages of standard building materials, application of structural concepts, and other related topics. Upon completion, students should be able to demonstrate an understanding of basic structural concepts.

CIV 221 Steel and Timber Design (2-3-0-3)

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course introduces the basic elements of steel and timber structures. Topics include the analysis and design of steel and timber beams, columns, and connections and the use of appropriate manuals and codes. Upon completion, students should be able to analyze, design, and draw simple steel and timber structures.

CIV 222 Reinforced Concrete (2-3-0-3)

Prerequisites: CIV 110 or MEC 250

Corequisites: None

This course introduces the basic elements of reinforced concrete and masonry structures. Topics include analysis and design of reinforced concrete beams, slabs, columns, footings, and retaining walls; load-bearing masonry walls; and ACI manuals and codes. Upon completion, students should be able to analyze and design components of a structure using reinforced concrete and masonry elements and utilize appropriate ACI publications.

CIV 230 Construction Estimating (2-3-0-3)

Prerequisites: CIS 111, EGR 115,

CIS 110 or ARC 111

Corequisites: None

This course covers quantity take-offs of labor, materials, and equipment and calculation of direct and overhead costs for a construction project. Topics include the interpretation of working drawings and specifications, types of contracts and estimates, building codes, bidding techniques and procedures, and estimating software. Upon completion, students should be able to prepare a detailed cost estimate and bid documents for a construction project.

CIV 240 Project Management (2-3-0-3)

Prerequisites: ARC 111 or EGR 115

Corequisites: None

This course introduces construction planning and scheduling techniques and project management software. Topics include construction safety, operation analysis, construction scheduling, construction control systems, claims and dispute resolutions, project records, and documentation. Upon completion, students should be able to demonstrate an understanding of the roles of construction project participants, maintain construction records, and prepare construction schedules.

CIV 250 Civil Eng Tech Project (1-3-0-2)

Prerequisites: CIV 211 and CIV 230

Corequisites: None

This course includes an integrated team approach to civil engineering technology projects. Emphasis is placed on project proposal, site selection, analysis/design of structures, construction material selection, time and cost estimating, planning, and management of a project. Upon completion, students should be able to apply team concepts prepare estimates, submit bid proposals, and manage projects. Oral and written communications skills will be emphasized.

CRIMINAL JUSTICE

CJC 100 Basic Law Enforcement Training (8-30-0-18)

Prerequisites: None

Corequisites: None

This course covers the skills and knowledge needed for entry-level employment as a law enforcement officer in North Carolina. Topics are divided into general units of study: legal, patrol duties, law enforcement communications, investigations, practical application and sheriff-specifics. Upon successful completion, the student will be able to demonstrate competence in the topics and areas required for the state comprehensive certification examination. This is a certificate-level course.

CJC 111 Intro to Criminal Justice (3-0-0-3)

Prerequisites: ENG 090 and RED 090

Corequisites: None

This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. *This course has been approved for transfer through the Comprehensive Articulation Agreement. This course is also available through the Virtual Learning Community (VLC).*

CJC 112 Criminology (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response. *This course is also available through the Virtual Learning Community (VLC).*

CJC 113 Juvenile Justice (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students

should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/detention of juveniles, and case disposition. *This course is also available through the Virtual Learning Community (VLC).*

CJC 114 Investigative Photography (1-2-0-2)

Prerequisites: ENG 090

Corequisites: None

This course covers the operation of various photographic equipment and its application to criminal justice. Topics include using various cameras, proper exposure of film, developing film/ prints, and preparing photographic evidence. Upon completion, students should be able to demonstrate and explain the role of photography and proper film exposure and development techniques.

CJC 120 Interviews/Interrogations (1-2-0-2)

Prerequisites: ENG 090

Corequisites: None

This course covers basic and special techniques employed in criminal justice interviews and interrogations. Emphasis is placed on the interview/interrogation process, including interpretation of verbal and physical behavior and legal perspectives. Upon completion, students should be able to conduct interviews/interrogations in a legal, efficient, and professional manner and obtain the truth from suspects, witnesses, and victims.

CJC 121 Law Enforcement Operations (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. *This course has been approved for transfer through the Comprehensive Articulation Agreement. This course is also available through the Virtual Learning Community (VLC).*

CJC 122 Community Policing (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers the historical, philosophical, and practical dimensions of community policing. Emphasis is placed on the empowerment of police and the community to find solutions to problems by forming partnerships. Upon completion, students should be able to define community policing, describe how community policing strategies solve problems, and compare community policing to traditional policing.

CJC 131 Criminal Law (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers the history/evolution/principles and contemporary applications of criminal law. Topics include sources of substantive law, classification of crimes, parties to crime, elements of crimes, matters of criminal responsibility, and other related topics. Upon completion, students should be able to discuss the sources of law and identify, interpret, and

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apply the appropriate statutes/elements. *This course is also available through the Virtual Learning Community (VLC).*

CJC 132 Court Procedure & Evidence (300-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers judicial structure/process/ procedure from incident to disposition, kinds and degrees of evidence, and the rules governing admissibility of evidence in court. Topics include consideration of state and federal courts, arrest, search and seizure laws, exclusionary and statutory rules of evidence, and other related issues. Upon completion, students should be able to identify and discuss procedures necessary to establish a lawful arrest/search, proper judicial procedures, and the admissibility of evidence. *This course is also available through the Virtual Learning Community (VLC).*

CJC 141 Corrections (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system. *This course has been approved for transfer through the Comprehensive Articulation Agreement. This course is also available through the Virtual Learning Community (VLC).*

CJC 144 Crime Scene Processing (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the theories and practices of crime scene processing and investigating. Topics include legal considerations at the crime scene, processing indoor and outdoor scenes, recording, note taking, collection and preservation of evidence and submission to the crime laboratory. Upon completion, the student should be able to evaluate and search various crime scenes and demonstrate the appropriate techniques. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

CJC 145 Crime Scene CAD (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the student to CAD software for crime scenes. Topics include drawing, editing, file management and drafting theory and practices. Upon completion, students should be able to produce and plot a crime scene drawing.

CJC 146 Trace Evidence (2-3-0-3)

Prerequisites: None

Corequisites: None

This course provides a study of trace evidence as it relates to forensic science. Topics include collection, packaging, and preservation of trace evidence from crime scenes such as bombings, fires and other

scenes. Upon completion, students should be able to demonstrate the fundamental concepts of trace evidence collection, preservation and submission to the crime laboratory. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

CJC 151 Intro to Loss Prevention (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the concepts and methods related to commercial and private security systems. Topics include the historical, philosophical, and legal basis of security, with emphasis on security surveys, risk analysis, and associated functions. Upon completion, students should be able to demonstrate and understand security systems, risk management, and the laws relative to loss prevention.

CJC 198 Seminar in Criminal Justice (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course provides an opportunity to explore topics of current interest. Emphasis is placed on the development of critical listening skills and the presentation of seminar issues. Upon completion, students should be able to critically analyze issues and establish informed opinions.

CJC 211 Counseling (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the basic elements of counseling and specific techniques applicable to the criminal justice setting. Topics include observation, listening, recording, interviewing, and problem exploration necessary to form effective helping relationships. Upon completion, students should be able to discuss and demonstrate the basic techniques of counseling.

CJC 212 Ethics & Comm Relations (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers ethical considerations and accepted standards applicable to criminal justice organizations and professionals. Topics include ethical systems; social change, values, and norms; cultural diversity; citizen involvement in criminal justice issues; and other related topics. Upon completion, students should be able to apply ethical considerations to the decision-making process in identifiable criminal justice situations. *This course is also available through the Virtual Learning Community (VLC).*

CJC 213 Substance Abuse (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course is a study of substance abuse in our society. Topics include the history and classifications of drug abuse and the social, physical, and psychological impact of drug abuse. Upon completion, students should be able to identify various types of drugs, their effects on human behavior and society, and treatment modalities.

CJC 214 Victimology (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the study of victims. Emphasis is placed on roles/characteristics of victims, victim interaction with the criminal justice system and society, current victim assistance programs, and other related topics. Upon completion, students should be able to discuss and identify victims, the uniqueness of victims' roles, and current victim assistance programs.

CJC 215 Organization & Administration (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the components and functions of organization and administration as it applies to the agencies of the criminal justice system. Topics include operations/functions of organizations; recruiting, training, and retention of personnel; funding and budgeting; communications; span of control and discretion; and other related topics. Upon completion, students should be able to identify and discuss the basic components and functions of a criminal justice organization and its administrative operations.

CJC 221 Investigative Principles (3-2-0-4)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation. *This course is also available through the Virtual Learning Community (VLC).*

CJC 222 Criminalistics (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers the functions of the forensic laboratory and its relationship to successful criminal investigations and prosecutions. Topics include advanced crime scene processing, investigative techniques, current forensic technologies, and other related topics. Upon completion, students should be able to identify and collect relevant evidence at simulated crime scenes and request appropriate laboratory analysis of submitted evidence.

CJC 223 Organized Crime (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the evolution of traditional and non-traditional organized crime and its effect on society and the criminal justice system. Topics include identifying individuals and groups involved in organized crime, areas of criminal activity, legal and political responses to organized crime, and other related topics. Upon completion, students should be able to identify the groups and activities involved in organized crime and the responses of the criminal justice system.

CJC 225 Crisis Intervention (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces critical incident intervention and management techniques as they apply to operational criminal justice practitioners. Emphasis is placed on the victim/offender situation as well as job-related high stress, dangerous, or problem solving citizen contacts. Upon completion, students should be able to provide insightful analysis of emotional, violent, drug-induced, and other critical and/or stressful incidents that require field analysis and/or resolution.

CJC 231 Constitutional Law (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

The course covers the impact of the Constitution of the United States and its amendments on the criminal justice system. Topics include the structure of the Constitution and its amendments, court decisions pertinent to contemporary criminal justice issues, and other related topics. Upon completion, students should be able to identify/discuss the basic structure of the United States Constitution and the rights/procedures as interpreted by the courts. *This course is also available through the Virtual Learning Community (VLC).*

CJC 232 Civil Liability (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers liability issues for the criminal justice professional. Topics include civil rights violations, tort liability, employment issues, and other related topics. Upon completion, students should be able to explain civil trial procedures and discuss contemporary liability issues.

CJC 233 Correctional Law (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces statutory/case law pertinent to correctional concepts, facilities, and related practices. Topics include examination of major legal issues encompassing incarceration, probation, parole, restitution, pardon, restoration of rights, and other related topics. Upon completion, students should be able to identify/discuss legal issues which directly affect correctional systems and personnel.

CJC 241 Community-Based Corrections (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course covers programs for convicted offenders that are used both as alternatives to incarceration and in post-incarceration situations. Topics include offenders, diversion, house arrest, restitution, community service, probation and parole, including both public and private participation, and other related topics. Upon completion, students should be able to identify/discuss the various programs from the perspective of the criminal justice professional, the offender, and the community.

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CJC 244 Footwear and Tire Imprints (2-3-0-3)

Prerequisites: None

Corequisites: None

This course provides a study of the fundamental concepts of footwear and tire imprint evidence as related to forensic science. Topics include proper photographic recording, casting, recognition of wear patterns and imprint identification. Upon completion, the student should be able to recognize, record, photograph, and identify footwear and tire imprints.

CJC 245 Friction Ridge Analysis (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic elements of fingerprint technology and techniques applicable to the criminal justice field. Topics include the history and meaning of fingerprints, pattern types and classification, filing sequence, searching and referencing. Upon completion, students should be able to discuss and demonstrate the fundamental techniques of basic fingerprint technology. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

CJC 246 Adv. Friction Ridge Analysis (2-3-0-3)

Prerequisites: CJC 245

Corequisites: None

This course introduces the theories and processes of advanced friction ridge analysis. Topics include evaluation of friction ridges, chart preparation, comparative analysis for valued determination rendering proper identification, chemical enhancement and AFIS preparation and usage. Upon completion, students must show an understanding of proper procedures for friction ridge analysis through written testing and practical exercises. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

CJC 250 Forensic Biology (2-2-0-3)

Prerequisites: ENG 090

Corequisites: None

This course covers important biological principles that are applied in the crime laboratory. Topics include forensic toxicology, forensic serology, microscopy, and DNA typing analysis, with an overview of organic and inorganic analysis. Upon completion, students should be able to articulate how a crime laboratory processes physical evidence submitted by law enforcement agencies.

CJC 251 Forensic Chemistry I (3-2-0-4)

Prerequisites: ENG 090

Corequisites: None

This course provides a study of the fundamental concepts of chemistry as it relates to forensic science. Topics include physical and chemical properties of substances, metric measurements, chemical changes, elements, compounds, gases, and atomic structure. Upon completion, students should be able to demonstrate an understanding of the fundamental concepts of forensic chemistry.

CJC 252 Forensic Chemistry II (3-2-0-4)

Prerequisites: CJC 251 and ENG 090

Corequisites: None

This course provides a study of specialized areas of chemistry specifically related to forensic science. Topics include properties of light, emission and absorption spectra, spectrophotometry, gas and liquid chromatography, and related topics in organic and biochemistry. Upon completion, students should be able to demonstrate an understanding of specialized concepts in forensic chemistry.

COOPERATIVE EDUCATION

COE 110 World of Work (1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course covers basic knowledge necessary for gaining and maintaining employment. Topics include job search skills, work ethic, meeting employer expectations, workplace safety, and human relations. Upon completion, students should be able to successfully make the transition from school to work.

COE 111 Co-op Work Experience I (0-0-10-1)

Prerequisites: None

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 112 Co-op Work Experience I (0-0-20-2)

Prerequisites: None

Corequisites: None

This course provides work experience with a college approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 113 Co-op Work Experience I (0-0-30-3)

Prerequisites: None

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 114 Co-op Work Experience I (0-0-40-4)

Prerequisites: None

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to

evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 115 Work Exp Seminar I (1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course description may be written by the individual colleges. This course provides information for career development through emphasis on self-exploration and awareness of the world of work. Upon completion, students will be able to make better career decisions and choices. Course may be customized specific to each curriculum area.

COE 121 Co-op Work Experience II (0-0-10-1)

Prerequisites: Any COE I Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 122 Co-op Work Experience II (0-0-20-2)

Prerequisites: Any COE I Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 123 Co-op Work Experience II (0-0-30-3)

Prerequisites: Any COE I Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 124 Co-op Work Experience II (0-0-40-4)

Prerequisites: Any COE I Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 125 Work Exp Seminar II (1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course provides information for career development through emphasis on self-exploration and

awareness of the world of work. Upon completion, students will be able to make better career decisions and choices. Course may be customized specific to each curriculum area.

COE 131 Co-op Work Experience III (0-0-10-1)

Prerequisites: Any COE I & II Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 132 Co-op Work Experience III (0-0-20-2)

Prerequisites: Any COE I & II Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 133 Co-op Work Experience III (0-0-30-3)

Prerequisites: Any COE I & II Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 134 Co-op Work Experience III (0-0-40-4)

Prerequisites: Any COE I & II Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 135 Work Exp Seminar III (1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course provides information for career development through emphasis on self-exploration and awareness of the world of work. Upon completion, students will be able to make better career decisions and choices. Course may be customized specific to each curriculum area.

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COE 211 Co-op Work Experience IV (0-0-10-1)

Prerequisites: Any COE I, II and III
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 212 Co-op Work Experience IV (0-0-20-2)

Prerequisites: Any COE I, II and III
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 213 Co-op Work Experience IV (0-0-30-3)

Prerequisites: Any COE I, II and III
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 214 Co-op Work Experience IV (0-0-40-4)

Prerequisites: Any COE I, II and III
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 215 Work Exp Seminar IV (1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course provides information for career development through emphasis on self-exploration and awareness of the world of work. Upon completion, students will be able to make better career decisions and choices. Course may be customized specific to each curriculum area.

COE 221 Co-op Work Experience V (0-0-10-1)

Prerequisites: Any COE I, II, III and IV
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 222 Co-op Work Experience V (0-0-20-2)

Prerequisites: Any COE I, II, III and IV
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 223 Co-op Work Experience V (0-0-30-3)

Prerequisites: Any COE I, II, III and IV
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 224 Co-op Work Experience V (0-0-40-4)

Prerequisites: Any COE I, II, III and IV
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 225 Work Exp Seminar V(1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course provides information for career development through emphasis on self-exploration and awareness of the world of work. Upon completion, students will be able to make better career decisions and choices. Course may be customized specific to each curriculum area.

COE 231 Co-op Work Experience VI (0-0-10-1)

Prerequisites: Any COE I, II, III, IV and V
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 232 Co-op Work Experience VI (0-0-20-2)

Prerequisites: Any COE I, II, III, IV and V
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 233 Co-op Work Experience VI (0-0-30-3)

Prerequisites: Any COE I, II, III, IV and V
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 234 Co-op Work Experience VI (0-0-40-4)

Prerequisites: Any COE I, II, III, IV and V
Work Experience

Corequisites: None

This course provides work experience with a college-approved employer in an area related to the student's program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

COE 235 Work Exp Seminar VI (1-0-0-1)

Prerequisites: None

Corequisites: Departmental Approval

This course provides information for career development through emphasis on self-exploration and awareness of the world of work. Upon completion, students will be able to make better career decisions and choices. Course may be customized specific to each curriculum area.

COMMUNICATIONS

COM 110 Introduction to Communication (3-0-0-3)

Prerequisites: ENG 090, RED 090, or
Departmental Approval

Corequisites: None

This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute). This course is also available through the Virtual Learning Community (VLC).*

COM 120 Intro Interpersonal Com (3-0-0-3)

Prerequisites: ENG 090, RED 090, or
Departmental Approval

Corequisites: None

This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute). This course is also available through the Virtual Learning Community (VLC).*

COM 231 Public Speaking (3-0-0-3)

Prerequisites: ENG 101 or ENG 111

Corequisites: None

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts (substitute). This course is also available through the Virtual Learning Community (VLC).*

COSMETOLOGY

COS 111 Cosmetology Concepts I (4-0-0-4)

Prerequisites: None

Corequisites: COS 112

This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and

Course Descriptions

other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting.

COS 112 Salon I (0-24-0-8)

Prerequisites: None
Corequisites: COS 111

This course introduces basic salon services. Topics include scalp treatments, shampooing, rinsing, hair color, design, haircutting, permanent waving, pressing, relaxing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate salon services.

COS 113 Cosmetology Concepts II (4-0-0-4)

Prerequisites: None
Corequisites: COS 114

This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, chemistry, manicuring, chemical restructuring, and hair coloring. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

COS 114 Salon II (0-24-0-8)

Prerequisites: None
Corequisites: COS 113

This course provides experience in a simulated salon setting. Topics include basic skin care, manicuring, nail application, scalp treatments, shampooing, rinsing, hair color, design, haircutting, chemical restructuring, pressing, wigs, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

COS 115 Cosmetology Concepts III (4-0-0-4)

Prerequisites: None
Corequisites: COS 116

This course covers more comprehensive cosmetology concepts. Topics include safety, product knowledge, salon management, salesmanship, skin care, electricity/light therapy, wigs, thermal hair styling, lash and brow tinting, superfluous hair removal, and other related topics. Upon completion, students should be able to safely and competently apply these cosmetology concepts in the salon setting.

COS 116 Salon III (0-12-0-4)

Prerequisites: None
Corequisites: COS 115

This course provides comprehensive experience in a simulated salon setting. Emphasis is placed on intermediate level of skin care, manicuring, scalp treatments, shampooing, hair color, design, haircutting, chemical restructuring, pressing, and other related topics. Upon completion, students should be able to safely and competently demonstrate these salon services.

COS 117 Cosmetology Concepts IV (2-0-0-2)

Prerequisites: None
Corequisites: COS 118

This course covers advanced cosmetology concepts. Topics include chemistry and hair structure, advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be

able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements.

COS 118 Salon IV (0-21-0-7)

Prerequisites: None
Corequisites: COS 117

This course provides advanced experience in a simulated salon setting. Emphasis is placed on efficient and competent delivery of all salon services in preparation for the licensing examination and employment. Upon completion, students should be able to demonstrate competence in program requirements and the areas covered on the Cosmetology Licensing Examination and meet entry-level employment requirements.

COS 250 Computerized Salon Ops (1-0-0-1)

Prerequisites: None
Corequisites: None

This course introduces computer and salon software. Emphasis is placed on various computer and salon software applications. Upon completion, students should be able to utilize computer skills and software applications in the salon setting.

COMPUTER PROGRAMMING

CSC 133 C Programming (2-3-0-3)

Prerequisites: None
Corequisites: MAT 120

This course introduces computer programming using the C programming language with structured programming principles. Topics include input/output operations, iteration, arithmetic operations, arrays, pointers, filters, and other related topics. Upon completion, students should be able to design, code, test and debug at a beginning level.

CSC 135 COBOL Programming (2-3-0-3)

Prerequisites: CIS 115
Corequisites: None

This course introduces computer programming using the COBOL programming language with structured programming principles. Topics include input/output operations, iteration, arithmetic operations, arrays, pointers, filters, and other related topics. Upon completion, students should be able to design, code, test and debug at a beginning level.

CSC 138 RPG Programming (2-3-0-3)

Prerequisites: CIS 115
Corequisites: None

This course introduces computer programming using the RPG programming language with structured programming principles. Topics include input/output operations, iteration, arithmetic operations, arrays, pointers, filters, and other related topics. Upon completion, students should be able to design, code, test and debug at a beginning level.

CSC 139 Visual BASIC Prog (2-3-0-3)

Prerequisites: CIS 115
Corequisites: None

This course introduces computer programming using the Visual BASIC programming language with object-oriented programming principles. Emphasis is

placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

CSC 141 Visual C++ Prog (2-3-0-3)

Prerequisites: CIS 115

Corequisites: None

This course introduces computer programming using the Visual C++ programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment at a beginning level.

CSC 151 JAVA Programming (2-3-0-3)

Prerequisites: CIS 115

Corequisites: None

This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

CSC 153 C# Programming (2-3-0-3)

Prerequisites: CIS 115

Corequisites: None

This course introduces computer programming using the C# programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment at the beginning level.

CSC 235 Adv COBOL Programming (2-3-0-3)

Prerequisites: CSC 135

Corequisites: None

This course is a continuation of CSC 135 using the COBOL programming language with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, data structures, sub-programs, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug and document programming solutions.

CSC 238 Adv RPG Programming (2-3-0-3)

Prerequisites: CSC 138

Corequisites: None

This course is a continuation of CSC 138 using the RPG programming language with structured programming principles. Emphasis is placed on advanced arrays/tables, file management/processing techniques, data structures, sub-programs, interactive processing, sort/merge routines, and libraries. Upon completion, students should be able to design, code, test, debug and document programming solutions.

CSC 239 Adv Visual BASIC Prog (2-3-0-3)

Prerequisites: CSC 139

Corequisites: None

This course is a continuation of CSC 139 using the Visual BASIC programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

CSC 241 Adv Visual C++ Prog (2-3-0-3)

Prerequisites: CSC 141

Corequisites: None

This course is a continuation of CSC 141 using the Visual C++ programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment.

CSC 251 Adv JAVA Programming (2-3-0-3)

Prerequisites: CSC 151

Corequisites: None

This course is a continuation of CSC 151 using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment.

CSC 253 Adv C# Programming (2-3-0-3)

Prerequisites: CSC 153

Corequisites: None

This course is a continuation of CSC 153 using the C# programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion, students should be able to design, code, test, debug, and implement objects using the appropriate environment.

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CSC 289 Programming Capstone Proj (1-4-0-3)

Prerequisites: CSC 239, CSC 241, CTS 285, DBA 115

Corequisites: None

This course provides an opportunity to complete a significant programming project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, testing, presentation, and implementation. Upon completion, students should be able to complete a project from the definition phase through implementation.

COMPUTER INFORMATION TECHNOLOGY

CTS 115 Info Sys Business Concept (3-0-0-3)

Prerequisites: None

Corequisites: None

The course introduces the role of IT in managing business processes and the need for business process and IT alignment. Emphasis is placed on industry need for understanding business challenges and developing/managing information systems to contribute to the decision making process based on these challenges. Upon completion, students should be able to demonstrate knowledge of the 'hybrid business manager' and the potential offered by new technology and systems. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

CTS 120 Hardware/Software Support (2-3-0-3)

Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course covers the basic hardware of a personal computer, including installation, operations and interactions with software. Topics include component identification, memory-system, peripheral installation and configuration, preventive maintenance, hardware diagnostics/repair, installation and optimization of system software, commercial programs, system configuration, and device-drivers. Upon completion, students should be able to select appropriate computer equipment and software, upgrade/maintain existing equipment and software, and troubleshoot/repair non-functioning personal computers.

CTS 130 Spreadsheet (2-3-0-3)

Prerequisites: CIS 110 or CIS 111 or OST 137

Corequisites: None

This course introduces basic spreadsheet design and development. Topics include writing formulas, using functions, enhancing spreadsheets, creating charts, and printing. Upon completion, students should be able to design and print basic spreadsheets and charts.

CTS 135 Integrated Software Intro (2-4-0-4)

Prerequisites: CIS 110 or CIS 111

Corequisites: None

This course instructs students in the Windows or Linux based program suites for word processing, spreadsheet, database, personal information manager,

and presentation software. This course prepares students for introductory level skills in database, spreadsheet, personal information manager, word processing, and presentation applications to utilize data sharing. Upon completion, students should be able to design and integrate data at an introductory level to produce documents using multiple technologies.

CTS 250 User Support & Softw Eval (2-3-0-3)

Prerequisites: CTS 120 and NOS 130

Corequisites: None

This course provides an opportunity to evaluate software and hardware and make recommendations to meet end-user needs. Emphasis is placed on software and hardware evaluation, installation, training, and support. Upon completion, students should be able to present proposals and make hardware and software recommendations based on their evaluations.

CTS 285 Systems Analysis & Design (3-0-0-3)

Prerequisites: CIS 115

Corequisites: None

This course introduces established and evolving methodologies for the analysis, design, and development of an information system. Emphasis is placed on system characteristics, managing projects, prototyping, CASE/OOM tools, and systems development life cycle phases. Upon completion, students should be able to analyze a problem and design an appropriate solution using a combination of tools and techniques.

CTS 287 Emerging Technologies (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces emerging information technologies. Emphasis is placed on evolving technologies and trends in business and industry. Upon completion, students should be able to articulate an understanding of the current trends and issues in emerging technologies for information systems.

CTS 289 System Support Project(1-4-0-3)

Prerequisites: CTS 120, CTS 285, NOS 130

Corequisites: None

This course provides an opportunity to complete a significant support project with minimal instructor assistance. Emphasis is placed on written and oral communication skills, project definition, documentation, installation, testing, presentation, and user training. Upon completion, students should be able to complete a project from the definition phase through implementation.

DATABASE CONCEPTS AND APPLICATIONS

DBA 110 Database Concepts (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces database design and creation using a DBMS product. Emphasis is placed on data dictionaries, normalization, data integrity, data modeling, and creation of simple tables, queries, reports, and forms. Upon completion, students should be able to design and implement normalized database structures by creating simple database tables, queries, reports, and forms.

DBA 115 Database Applications (2-2-0-3)

Prerequisites: DBA 110

Corequisites: None

This course applies concepts learned in DBA 110 to a specific DBMS. Topics include manipulating multiple tables, advanced queries, screens and reports, linking, and command files. Upon completion, students should be able to create multiple table systems that demonstrate updates, screens, and reports representative of industry requirements.

DESIGN - See ART

DESIGN DRAFTING

- See Also **DRAFTING (DFT)**

DDF 211 Design Drafting I (2-6-0-4)

Prerequisites: DFF 112

Corequisites: None

This course emphasizes design processes for finished products. Topics include data collection from manuals and handbooks, efficient use of materials, design sketching, specifications, and vendor selection. Upon completion, students should be able to research and plan the design process for a finished product.

DDF 214 Tool Design (2-4-0-3)

Prerequisites: DDF 212

Corequisites: None

This course introduces the principles of tool design. Topics including gaging, die work, and cost analysis using available catalogs and studies using manufacturing processes. Upon completion, students should be able to use catalogs to identify vendors and prepare working drawings for tooling. Oral and written communications skills will be emphasized.

DIETETIC TECHNICIAN

DET 110 Dietetic Technician I (6-0-6-8)

Prerequisites: None

Corequisites: None

This course introduces concepts basic to the role of the dietetic technician. Emphasis is placed on community health agencies, basic nutrition throughout the life cycle, and selection of well-balanced diets for the promotion of health. Upon completion of the course students should be able to begin to apply principles of nutrition and diet planning.

DET 115 Dietetic Technician II (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces the principles of food sanitation. Emphasis is placed on the control of food-borne illnesses and contaminants including methods used to prevent contamination during preparation and storage. Upon completion of the course students should be able to apply sanitation principles in practice as a dietetic technician.

DET 120 Dietetic Technician III (6-0-9-9)

Prerequisites: DET 110

Corequisites: None

This course provides an expanded knowledge base for the dietetic technician. Emphasis is placed on food programs and resources available to meet nutritional needs, basic principles of therapeutic nutrition,

and principles of food sanitation. Upon completion the student should be able to begin to participate in the delivery of nutritional care for health promotion or nutritional treatment for common conditions.

DET 210 Dietetic Technician IV (6-0-12-10)

Prerequisites: DET 120, BIO 163

Corequisites: BIO 275

This course provides an expanded knowledge base in therapeutic nutrition. Emphasis is placed on nutritional assessment throughout the life span, principles of teaching/learning and principles of managing nutritional programs. Upon completion students should be able to assess nutritional status and design menus for individuals with common medical conditions and provide nutritional education.

DET 220 Dietetic Technician V (6-0-12-10)

Prerequisites: None

Corequisites: None

This course provides an expanded knowledge base in the management of nutrition programs. Emphasis is placed on the application of food production, food service, and nutritional care principles in a health care environment under supervision. Upon completion the student should be able to participate in the management of a nutritional program.

DET 225 Dietetic Technician VI (2-0-0-2)

Prerequisites: None

Corequisites: None

This course provides an opportunity to explore issues related to the practice of the Dietetic Technician. Emphasis is placed on ethical, legal, professional, and political issues. Upon completion the student should be able to discuss issues relating to the practice of the Dietetic Technician.

DRAFTING - See Also Design Drafting DDF

DFT 111 Technical Drafting I (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces basic drafting skills, equipment, and applications. Topics include sketching, measurements, lettering, dimensioning, geometric construction, orthographic projections and pictorial drawings, sections, and auxiliary views. Upon completion, students should be able to understand and apply basic drawing principles and practices.

DFT 111A Technical Drafting I Lab (0-3-1)

Prerequisite: None

Corequisites: DFT 111

This course provides a laboratory setting to enhance basic drafting skills. Emphasis is placed on practical experiences that enhance the topics presented in DFT 111. Upon completion, students should be able to apply the laboratory experiences to concepts presented in DFT 111.

DFT 112 Technical Drafting II (1-3-0-2)

Prerequisites: DFT 111

Corequisites: None

This course provides for advanced drafting practices and procedures. Topics include detailed working drawings, hardware, fits and tolerances, assembly

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and sub-assembly, geometric dimensioning and tolerancing, intersections, and developments. Upon completion, students should be able to produce detailed working drawings.

DFT 112A Technical Drafting II Lab (0-3-0-1)

Prerequisites: DFT 111, DFT 111A

Corequisites: DFT 112

This course provides a laboratory setting to enhance basic drafting skills. Emphasis is placed on practical experiences that enhance the topics presented in DFT 112. Upon completion, students should be able to apply the laboratory experiences to concepts presented in DFT 112.

DFT 121 Intro to GD & T (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces basic geometric dimensioning and tolerancing principles. Topics include symbols, annotation, theory, and applications. Upon completion, students should be able to interpret and apply basic geometric dimensioning and tolerancing principles to drawings.

DFT 151 CAD I (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces CAD software as a drawing tool. Topics include drawing, editing, file management, and plotting. Upon completion, students should be able to produce and plot a CAD drawing.

DFT 152 CAD II (2-3-0-3)

Prerequisites: DFT 151

Corequisites: None

This course provides an overview of computer concepts. Emphasis is placed on the use of personal computers and software applications for personal and fundamental workplace use. Upon completion, students should be able to demonstrate basic personal computer skills. *This course is also available through the Virtual Learning Community (VLC).*

DFT 153 CAD III (2-3-0-3)

Prerequisites: DFT 151

Corequisites: None

This course introduces advanced CAD applications. Emphasis is placed upon advanced applications of CAD skills. Upon completion, students should be able to use advanced CAD applications to generate and manage data.

DFT 170 Engineering Graphics (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces basic engineering graphics skills and applications. Topics include sketching, selection and use of current methods and tools, and the use of engineering graphics applications. Upon completion, students should be able to demonstrate an understanding of basic engineering graphics principles and practices. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

DFT 211 Gears, Cams, & Pulleys (1-3-0-2)

Prerequisites: DFT 111 and MAT 121,

MAT 161, MAT 171, or MAT175

Corequisites: None

This course introduces the principles of motion transfer. Topics include gears, cams, pulleys, and drive components. Upon completion, students should be able to solve problems and produce drawings dealing with ratios.

DFT 231 Jig & Fixture Design (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces the study of jigs and fixtures. Topics include different types, components, and uses of jigs and fixtures. Upon completion, students should be able to analyze, design, and complete a set of working drawings for a jig or fixture. Oral and written communications skills will be emphasized.

DFT 243 Basic Die Design (2-6-0-4)

Prerequisites: DFT 151

Corequisites: None

This course introduces the basic principles and applications of die making. Topics include types, construction, and application of dies. Upon completion, students should be able to design and make detailed drawings of simple dies.

ECONOMICS

ECO 151 Survey of Economics (3-0-0-3)

Prerequisites: None

Corequisites: None

This course, for those who have not received credit for ECO 251 or 252, introduces basic concepts of micro- and macroeconomics. Topics include supply and demand, optimizing economic behavior, prices and wages, money, interest rates, banking system, unemployment, inflation, taxes, government spending, and international trade. Upon completion, students should be able to explain alternative solutions for economic problems faced by private and government sectors. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ECO 251 Prin of Microeconomics (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces economic analysis of individual, business, and industry in the market economy. Topics include the price mechanism, supply and demand, optimizing economic behavior, costs and revenue, market structures, factor markets, income distribution, market failure, and government intervention. Upon completion, students should be able to identify and evaluate consumer and business alternatives in order to efficiently achieve economic objectives. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

ECO 252 Prin of Macroeconomics (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces economic analysis of aggregate employment, income, and prices. Topics include major schools of economic thought; aggregate supply and demand; economic measures, fluctuations, and growth; money and banking; stabilization techniques; and international trade. Upon completion, students should be able to evaluate national economic components, conditions, and alternatives for achieving socioeconomic goals. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

EDUCATION

EDU 111 Early Childhood Cred I (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces early childhood education and the role of the teacher in environments that encourage exploration and learning. Topics include professionalism, child growth and development, individuality, family, and culture. Upon completion, students should be able to identify and demonstrate knowledge of professional roles, major areas of child growth and development, and diverse families.

EDU 112 Early Childhood Cred II (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces developmentally appropriate practices, positive guidance, and standards of health, safety, and nutrition. Topics include the learning environment, planning developmentally appropriate activities, positive guidance techniques, and health, safety, and nutrition standards. Upon completion, students should be able to demonstrate developmentally appropriate activities and positive guidance techniques and describe health/sanitation/nutrition practices that promote healthy environments for children.

EDU 119 Early Childhood Ed (4-0-0-4)

Prerequisites: None

Corequisites: None

This course covers the foundations of the education profession, the diverse educational settings for young children, professionalism and planning developmentally appropriate programs for children. Topics include historical foundations, program types, career options, professionalism, and creating inclusive environments and curriculum that are responsive to the needs of children and families. Upon completion, students should be able to design career plans and develop appropriate schedules, environments and activity plans while incorporating adaptations for children with exceptionalities. This course should be taken during the first semester in the Early Childhood Program. *This course is also available through the Virtual Learning Community (VLC).*

EDU 131 Child, Family, & Commun (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the development of partnerships between families, inclusive programs for children/schools that serve young children with and without disabilities, and the community. Emphasis is placed on requisite skills and benefits for successfully establishing, supporting, and maintaining respectful collaborative relationships between today's diverse families, centers/schools, and community resources. Upon completion, students should be able to describe appropriate relationships with parents/caretakers, center/school colleagues, and community agencies that enhance the educational experiences/well-being of all children. *This course is also available through the Virtual Learning Community (VLC).*

EDU 144 Child Development I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the theories of child development, developmental sequences, and factors that influence children's development, from conception through pre-school for all children. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and the multiple influences on development and learning of the whole child. Upon completion, students should be able to identify typical and atypical developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments. *This course is also available through the Virtual Learning Community (VLC).*

EDU 145 Child Development II (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers theories of child development, developmental sequences, and factors that influence children's development, from pre-school through middle childhood for all children. Emphasis is placed on sequences in physical/motor, social, emotional, cognitive, and language development and the multiple influences on development and learning of the whole child. Upon completion, students should be able to identify typical and atypical developmental characteristics, plan experiences to enhance development, and describe appropriate interaction techniques and environments. *This course is also available through the Virtual Learning Community (VLC).*

EDU 146 Child Guidance (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces practical principles and techniques for providing developmentally appropriate guidance for all children with and without disabilities, including those at risk. Emphasis is placed on encouraging self-esteem, cultural awareness, effective communication skills, direct/indirect techniques/strategies and observation to understand the underlying causes of behavior. Upon completion, students should be able to demonstrate appropriate interactions with children and families and promote conflict resolution, self-control, self-motivation, and

Course Descriptions

self-esteem in children. *This course is also available through the Virtual Learning Community (VLC).*

EDU 151 Creative Activities (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers planning, creation and adaptation of developmentally supportive learning environments with attention to curriculum, interactions, teaching practices and learning materials. Emphasis is placed on creating and adapting integrated, meaningful, challenging and engaging developmentally supportive learning experiences in art, music, movement and physical skills, and dramatics. Upon successful completion, students should be able to create, manage, adapt and evaluate developmentally supportive learning materials, experiences and environments. *This course is also available through the Virtual Learning Community (VLC).*

EDU 153 Health, Safety, & Nutrition (3-0-0-3)

Prerequisites: None

Corequisites: None

This course focuses on promoting and maintaining the health and well-being of all children. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy environments, recognition and reporting of abuse and neglect and state regulations. Upon completion, students should be able to demonstrate knowledge of health, safety, and nutritional needs, implement safe learning environments, and adhere to state regulations. *This course is also available through the Virtual Learning Community (VLC).*

EDU 163 Classroom Mgt & Instruct (3-0-0-3)

Prerequisites: None

Corequisites: None

This course examines management and instructional techniques with school-age populations. Topics include classroom management and organization, teaching strategies, individual student differences and learning styles, and developmentally appropriate classroom guidance techniques. Upon completion, students should be able to developmentally appropriate behavior management and instructional strategies that enhance the teaching/learning process and promote students' academic success.

EDU 216 Foundations of Education (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces the American educational system and the teaching profession. Topics include historical and philosophical foundations of education, contemporary educational, structural, legal, and financial issues, PRAXIS I preparation and observation and participation in public school classrooms. Upon completion, students should be able to relate classroom observations to the roles of teachers and schools and the process of teacher education. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. This course is also available through the Virtual Learning Community (VLC).*

EDU 221 Children with Exceptional (3-0-0-3)

Prerequisites: EDU 144 and EDU 145

or PSY 244 and PSY 245

Corequisites: None

This course, based on the foundations of typical development, introduces working with children with exceptionalities. Emphasis is placed on the characteristics and assessment of children and strategies for adapting the learning environment. Upon completion, students should be able to recognize atypical development, make appropriate referrals, collaborate with families and professionals to plan, implement, and evaluate inclusion strategies. *This course is also available through the Virtual Learning Community (VLC).*

EDU 234 Infants, Toddlers, & Twos (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the skills needed to effectively implement group care for infants, toddlers, and two year olds. Emphasis is placed on child development and developmentally appropriate practices. Upon completion, students should be able to identify, plan, select materials and equipment, and implement and evaluate a developmentally appropriate curriculum.

EDU 235 School-Age Dev & Program (2-0-0-2)

Prerequisites: None

Corequisites: None

This course presents developmentally appropriate practices in group care for school-age children. Topics include principles of development, environmental planning, and positive guidance techniques. Upon completion, students should be able to discuss developmental principles for children five to twelve years of age and plan and implement age-appropriate activities.

EDU 243 Learning Theory (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides lateral entry teachers an introduction to learning theory, various styles of learning, and motivational factors involved in the learning process. Emphasis is placed on the development of cognitive skills using the seven types of intelligence and applying these to practical classroom situations. Upon completion, students should be able to describe theories and styles of learning and discuss the relationship between different types of intelligence to learning motivation.

EDU 244 Human Growth/Development (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces lateral entry teachers to theories and ages and stages related to human growth and development from birth through adolescence. Emphasis is placed on development through the stages of a child's life in the areas of physical, emotional, social, intellectual, and moral development. Upon completion, students should be able to identify and describe milestones of each stage in all areas of development and discuss factors that influence growth.

EDU 245 Policies and Procedures (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is designed to introduce new lateral entry teachers to the policies and procedures established by the local education agency. Topics include emergency situation procedures, acceptable discipline, chain of command, role of mentors, evaluation procedures, employment requirements, dress codes, and other policies and procedures. Upon completion, students should be able to explain the policies and procedures to students, parents, or others and discuss the purpose of each policy category.

EDU 250 PRAXIS I Preparation (1-0-0-1)

Prerequisites: None

Corequisites: None

This course is designed to prepare potential teachers for the PRAXIS I exam that is necessary to enter the field of education. Emphasis is placed on content specifications of the PRAXIS I exam, study skills and simulated examinations. Upon completion, students should be able to demonstrate an understanding of the content necessary for successful completion of the PRAXIS I exam.

EDU 251 Exploration Activities (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers discovery experiences in science, math, and social studies. Emphasis is placed on developing concepts for each area and encouraging young children to explore, discover, and construct concepts. Upon completion, students should be able to discuss the discovery approach to teaching, explain major concepts in each area, and plan appropriate experiences for children.

EDU 259 Curriculum Planning (3-0-0-3)

Prerequisites: EDU 112 or EDU 113, or EDU 119

Corequisites: None

This course covers early childhood curriculum planning. Topics include philosophy, curriculum, indoor and outdoor environmental design, scheduling, observation and assessment, and instructional planning and evaluation. Upon completion, students should be able to assess children and curriculum; plan for daily, weekly, and long-range instruction; and design environments with appropriate equipment and supplies.

EDU 261 Early Childhood Admin I (3-0-0-3)

Prerequisites: EDU 111 or EDU 112, or EDU 119

Corequisites: None

This course covers the policies, procedures, and responsibilities for the management of early childhood education programs. Topics include implementation of goals, principles of supervision, budgeting and financial management, and meeting the standards for a NC Child Day Care license. Upon completion, students should be able to develop program goals, explain licensing standards, determine budgeting needs, and describe effective methods of personnel supervision. *This course is also available through the Virtual Learning Community (VLC).*

EDU 262 Early Childhood Admin 11 (3-0-0-3)

Prerequisites: EDU 261

Corequisites: None

This course provides a foundation for budgetary, financial, and personnel management of the child care center. Topics include budgeting, financial management, marketing, hiring, supervision, and professional development of a child care center. Upon completion, students should be able to formulate marketing, financial management, and fund development plans and develop personnel policies, including supervision and staff development plans. *This course is also available through the Virtual Learning Community (VLC).*

EDU 271 Educational Technology (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces the use of technology to enhance teaching and learning in all educational settings. Topics include technology concepts, instructional strategies, materials and adaptive technology for children with exceptionalities, facilitation of assessment/evaluation, and ethical issues surrounding the use of technology. Upon completion, students should be able to apply technology enhanced instructional strategies, use a variety of technology resources and demonstrate appropriate technology skills in educational environments. *This course is also available through the Virtual Learning Community (VLC).*

EDU 280 Language & Literacy Exp (3-0-0-3)

Prerequisites: None

Corequisites: None

This course explores the continuum of children's communication development, including verbal and written language acquisition and other forms of communication. Topics include selection of literature and other media, the integration of literacy concepts throughout the classroom environment, inclusive practices and appropriate assessments. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate literacy experiences. *This course is also available through the Virtual Learning Community (VLC).*

EDU 288 Adv Issues/Early Child Ed (2-0-0-2)

Prerequisites: 40 semester hours in the Early Childhood Program or departmental approval

Corequisites: None

This course covers advanced topics and issues in early childhood. Emphasis is placed on current advocacy issues, emerging technology, professional growth experiences, and other related topics. Upon completion, students should be able to list, discuss, and explain advanced current topics and issues in early childhood education. This is a capstone course for the Early Childhood Program.

Course Descriptions

(ENGINEERING)

PRE-ENGINEERING

EGR 115 Intro to Technology (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic skills and career fields for technicians. Topics include career options, technical vocabulary, dimensional analysis, measurement systems, engineering graphics, calculator applications, professional ethics, safety practices, and other related topics. Upon completion, students should be able to demonstrate an understanding of the basic technologies, prepare drawings and sketches, and perform computations using a scientific calculator.

EGR 130 Engineering Cost Control (2-2-0-3)

Prerequisites: MAT 121, MAT 161 or MAT 171

Corequisites: None

This course covers the management of projects and systems through the control of costs. Topics include economic analysis of alternatives within budget constraints and utilization of the time value of money approach. Upon completion, students should be able to make choices that optimize profits on both short-term and long-term decisions. Incorporated into the course are concepts covering accounting methodology, cost systems including activity-based costing, and cost estimating practices.

EGR 280 Tech Proj Documentation (0-2-0-1)

Prerequisites: None

Corequisites: None

This course provides an opportunity for students to apply technical documentation skills. Emphasis is placed on research, documentation, technical reporting, and presentation skills associated with capstone design projects. Upon completion, students should be able to demonstrate technical documentation skills consistent with engineering technicians in the workplace.

EGR 285 Design Project (0-4-0-2)

Prerequisites: None

Corequisites: None

This course provides the opportunity to design an instructor-approved project using previously acquired skills. Emphasis is placed on selection, proposal, design, testing, and documentation of the approved project. Upon completion, students should be able to present and demonstrate projects. Oral and written communications skills will be emphasized.

ELECTRICAL TECHNOLOGY

ELC 111 Intro, to Electricity (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces the fundamental concepts of electricity and test equipment to non-electrical/ electronics majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors, and capacitors); power; and operation of test equipment. Upon completion,

students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.

ELC 112 DC/AC Electricity (3-6-0-5)

Prerequisites: None

Corequisites: None

This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/ AC circuits.

ELC 113 Basic Wiring I (2-6-0-4)

Prerequisites: None

Corequisites: None

This course introduces the care/usage of tools and materials used in electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical blueprint reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.

ELC 115 Industrial Wiring (2-6-0-4)

Prerequisites: ELC 113

Corequisites: None

This course covers layout, planning, and installation of wiring systems in industrial facilities., Emphasis is placed on industrial wiring methods and materials. Upon completion, students should be able to install industrial systems and equipment.

ELC 117 Motors and Controls (2-6-0-4)

Prerequisites: ELC 112

Corequisites: None

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contactors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

ELC 118 National Electrical Code (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC.

ELC 119 NEC Calculations (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers branch circuit, feeder, and service calculations. Emphasis is placed on sections of the National Electrical Code related to calculations. Upon completion, students should be able to use appropriate code sections to size wire, conduit, and overcurrent devices for branch circuits, feeders, and service.

ELC 126 Electrical Computations (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces the fundamental applications of mathematics which are used by an electrical/electronics technician. Topics include whole numbers, fractions, decimals, powers, roots, simple electrical formulas, and usage of a scientific calculator. Upon completion, students should be able to solve simple electrical mathematical problems.

ELC 128 Intro to PLC (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to install PLCs and create simple programs.

ELC 131 DC/AC Circuit Analysis (4-3-0-5)

Prerequisites: None

Corequisites: MAT 121

This course introduces DC and AC electricity with an emphasis on circuit analysis, measurements, and operation of test equipment. Topics include DC and AC principles, circuit analysis laws and theorems, components, test equipment operation, circuit simulation, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

ELC 133 Adv. Circuit Analysis (2-3-0-3)

Prerequisites: ELC 131

Corequisites: None

This course covers additional concepts of DC/AC electricity, the use of test equipment, and measurement techniques for electrical/electronics majors. Topics include the application of network theorems such as delta/wye transformations, Superposition Theorem, and other advanced circuit analysis principles. Upon completion, students should be able to construct and analyze DC/AC circuits, use advanced circuit analysis theorems, circuit simulators, and test equipment.

ELC 135 Electrical Machines I (2-2-0-3)

Prerequisites: ELC 112 or ELC 131

Corequisites: None

This course covers magnetic circuits, transformers, DC/AC machines, and the three-phase circuit fundamentals including power factor. Topics include magnetic terms and calculations, transformer calculations based on primary or secondary equivalent circuits, and regulation and efficiency calculations. Upon completion, students should be able to perform regulation and efficiency calculations for DC/AC machine circuits.

ELC 228 PLC Applications (2-6-0-4)

Prerequisites: None

Corequisites: None

This course covers programming and applications of programmable logic controllers. Emphasis is placed

on programming techniques, networking, specialty I/O modules, and system troubleshooting. Upon completion, students should be able to specify, implement, and maintain complex PLC controlled systems.

ELC 231 Electric Power Systems (3-2-0-4)

Prerequisites: None

Corequisites: None

This course covers the basic principles of electric power systems, including transmission lines, generator and transformer characteristics, and fault detection and correction. Emphasis is placed on line diagrams and per unit calculations for circuit performance analysis in regards to voltage regulation, power factor, and protection devices. Upon completion, students should be able to analyze simple distribution subsystems, calculate fault current, and compare different types and sizes of circuit protection devices. Oral and written communications skills will be emphasized.

ELECTRONICS TECHNOLOGY

ELN 131 Semiconductor Applications (3-3-0-4)

Prerequisites: ELC 131

Corequisites: None

This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.

ELN 132 Linear IC Applications (3-3-0-4)

Prerequisites: ELN 131

Corequisites: None

This course introduces the characteristics and applications of linear integrated circuits. Topics include op-amp circuits, waveform generators, active filters, IC voltage regulators, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot linear integrated circuits using appropriate techniques and test equipment.

ELN 133 Digital Electronics (3-3-0-4)

Prerequisites: None

Corequisites: None

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, MSI and LSI circuits, AD/DA conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 150 CAD for Electronics (1-3-0-2)

Prerequisites: EGR 115

Corequisites: None

This course introduces computer-aided drafting (CAD) with an emphasis on applications in the electronics field. Topics include electronics industry standards (symbols, schematic diagrams, layouts); drawing electronic circuit diagrams; and specialized

Course Descriptions

electronic drafting practices and components such as resistors, capacitors, and ICs. Upon completion, students should be able to prepare electronic drawings with CAD software.

ELN 229 Industrial Electronics (3-3-0-4)

Prerequisites: ELC 112

Corequisites: None

This course covers semiconductor devices used in industrial applications. Topics include the basic theory, application, and operating characteristics of semiconductor devices. Upon completion, students should be able to install and/or troubleshoot these devices for proper operation in an industrial electronic circuit. Oral and written communications skills will be emphasized.

ELN 232 Intro to Microprocessors (3-3-0-4)

Prerequisites: ELN 133

Corequisites: None

This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment. Oral and written communications skills will be emphasized.

ELN 233 Microprocessor Systems (3-3-0-4)

Prerequisites: ELN 232

Corequisites: None

This course covers the application and design of microprocessor control systems. Topics include control and interfacing of systems using AD/DA, serial/parallel I/O, communication protocols, and other related applications. Upon completion, students should be able to design, construct, program, verify, analyze, and troubleshoot fundamental microprocessor interface and control circuits using related equipment.

ELN 234 Communication Systems (3-3-0-4)

Prerequisites: ELN 131

Corequisites: None

This course introduces the fundamentals of electronic communication systems. Topics include the frequency spectrum, electrical noise, modulation techniques, characteristics of transmitters and receivers, and digital communications. Upon completion, students should be able to interpret analog and digital communication circuit diagrams, analyze transmitter and receiver circuits, and use appropriate communication test equipment. Oral and written communications skills will be emphasized.

ELN 235 Data Communication Systems (3-3-0-4)

Prerequisites: ELN 131

Corequisites: None

This course covers data communication systems and the transmission of digital information from source to destination. Topics include data transmission systems, interfaces and modems, protocols, networks, and other related topics. Upon completion, students

should be able to demonstrate knowledge of the concepts associated with data communication systems. Oral and written communications skills will be emphasized.

ELN 237 Local Area Networks (2-3-0-3)

Prerequisites: CET 111

Corequisites: None

This course introduces the fundamentals of local area networks and their operation. Topics include the characteristics of network topologies, system hardware, system configuration, installation and operation of the LAN. Upon completion, students should be able to install and maintain a local area network.

ELN 238 Advanced LANs (2-3-0-3)

Prerequisites: ELN 237

Corequisites: None

This course covers advanced concepts, tools, and techniques associated with servers, workstations, and overall local area network performance. Topics include network security and configuration, system performance and optimization, communication protocols and packet formats, troubleshooting techniques, multi-platform integration, and other related topics. Upon completion, students should be able to use advanced techniques to install, manage, and troubleshoot networks and optimize server and workstation performance.

ELN 260 Prog Logic Controllers (3-3-0-4)

Prerequisites: None

Corequisites: None

This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.

EMERGENCY MEDICAL SCIENCE

EMS 110 EMT-Basic (5-6-0-7)

Prerequisites: Departmental Approval

Corequisites: None

This course introduces basic emergency medical care. Topics include preparatory, airway, patient assessment, medical emergencies, trauma, infants and children, and operations. Upon completion, students should be able to demonstrate the skills necessary to achieve North Carolina State or National Registry EMT-Basic certification.

EMS 120 Intermediate Interventions (2-3-0-3)

Prerequisites: BIO 168 or

Departmental Approval

Corequisites: COE 111, EMS 121, EMS 122,

EMS 130, EMS 131

Current NC-Emergency Medical Technician certificate is required for students enrolling in this course. This course is designed to provide the necessary information for interventions appropriate to the EMT-Intermediate and is required for intermediate

certification. Topics include automated external defibrillation, basic cardiac electrophysiology, intravenous therapy, venipuncture, acid-base balance, and fluids and electrolytes. Upon completion, students should be able to properly establish an IV line, obtain venous blood, utilize AEDs, and correctly interpret arterial blood gases. *Current NC-Emergency Medical Technician Basic certificate is required for students enrolling in this course.*

EMS 121 EMS Clinical Practicum I (0-0-6-2)

Prerequisites or Corequisite: BIO 168 or Departmental Approval

Corequisites: BIO 168, EMS 120, EMS 130, EMS 131

This course is the initial hospital and field internship and is required for intermediate and paramedic certification. Emphasis is placed on intermediate-level care. Upon completion, students should be able to demonstrate competence with intermediate-level skills.

EMS 125 EMS Instructor Methodology (1-2-0-2)

Prerequisites: Enrollment in EMS program

Corequisites: None

This course covers the information needed to develop and instruct EMS courses. Topics include instructional methods, lesson plan development, time management skills, and theories of adult learning. Upon completion, students should be able to teach EM courses and meet the North Carolina EMS requirements for instructor methodology.

EMS 130 Pharmacology I for EMS (1-3-0-2)

Prerequisites: BIO 168

or Departmental Approval

Corequisites: EMS 120, EMS 130, EMS 131

This course introduces the fundamental principles of pharmacology and medication administration and is required for intermediate and paramedic certification. Topics include terminology, pharmacokinetics, pharmacodynamics, weights, measures, drug calculations, legislation, and administration routes. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.

EMS 131 Advanced Airway Management (1-2-0-2)

Prerequisites: EMS 110 or

Departmental Approval

Corequisites: BIO 168, EMS 120, EMS 130

This course is designed to provide advanced airway management techniques and is required for intermediate and paramedic certification. Topics include respiratory anatomy and physiology, airway, ventilation, adjuncts, surgical intervention, and rapid sequence intubation. Upon completion, students should be able to properly utilize all airway adjuncts and pharmacology associated with airway control and maintenance.

EMS 140 Rescue Scene Management (1-3-0-2)

Prerequisites: EMS 110 or

Departmental Approval

Corequisites: None

This course introduces rescue scene management and is required for paramedic certification. Topics include response to hazardous material conditions,

medical incident command, and extrication of patients from a variety of situations. Upon completion, students should be able to recognize and manage rescue operations based upon initial and follow-up scene assessment.

EMS 150 Emergency Vehicles & EMS Comm (1-3-0-2)

Prerequisites: EMS 110 or

Departmental Approval

Corequisites: None

This course examines the principles governing emergency vehicles, maintenance of emergency vehicles, and EMS communication equipment and is required for paramedic certification. Topics include applicable motor vehicle laws affecting emergency vehicle operation, defensive driving, collision avoidance techniques, communication systems, and information management systems. Upon completion, students should have a basic knowledge of emergency vehicles, maintenance, and communication needs.

EMS 210 Advanced Patient Assessment (1-3-0-2)

Prerequisites: EMS 120, EMS 130, EMS 131, EMS 121

Corequisites: None

This course covers advanced patient assessment techniques and is required for paramedic certification. Topics include initial assessment, medical-trauma history, field impression, complete physical exam process, on-going assessment, and documentation skills. Upon completion, students should be able to utilize basic communications skills and record and report collected patient data.

EMS 220 Cardiology (3-3-0-4)

Prerequisites: EMS 121, EMS 120, EMS 130, EMS 131

Corequisites: EMS 221

This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, rhythm interpretation, cardiac pharmacology, and patient treatment. Upon completion, students should be able to certify at the Advanced Cardiac Life Support Provider level utilizing American Heart Association guidelines.

EMS 221 EMS Clinical Practicum II (0-0-9-3)

Prerequisites: EMS 120, EMS 121, EMS 130, EMS 131, EMS 210

Corequisites: EMS 220, EMS 210,

Current NC EMT Certification is required for students enrolling in this course. This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care. Current NC EMT Certification is required for students enrolling in this course.

EMS 231 EMS Clinical Pract III (0-0-9-3)

Prerequisites: EMS 221, EMS 222, COE 121

Corequisites: None

This course is a continuation of the hospital and field internship required for paramedic certification.

Course Descriptions

Emphasis is placed on advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care.

EMS 235 EMS Management (2-0-0-2)

Prerequisites: EMS 110 or

Departmental Approval

Corequisites: None

This course stresses the principles of managing a modern emergency medical service system. Topics include structure and function of municipal governments, EMS grantsmanship, finance, regulatory agencies, system management, legal issues, and other topics relevant to the EMS manager. Upon completion, students should be able to understand the principles of managing emergency medical service delivery systems.

EMS 240 Special Needs Patients (1-2-0-2)

Prerequisites: Departmental Approval

Corequisites: None

This course includes concepts of crisis intervention and techniques of dealing with special needs patients and is required for paramedic certification. Topics include behavioral emergencies, abuse, assault, challenged patients, personal well-being, home care, and psychotherapeutic pharmacology. Upon completion, students should be able to recognize and manage frequently encountered special needs patients.

EMS 241 EMS Clinical Practicum IV(0-0-9-3)

Prerequisites: EMS 231

Corequisites: Current NC EMT Certification is required for students enrolling in this course.

This course is a continuation of the hospital and field internship required for paramedic certification. Emphasis is placed on advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic. Current NC EMT Certification is required for students enrolling in this course.

EMS 250 Advanced Medical Emergencies (2-3-0-3)

Prerequisites: BIO 168, EMS 120, EMS 130, EMS 131, EMS 210

Corequisites: EMS 221

This course provides an in-depth study of medical conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include pulmonology, neurology, endocrinology, anaphylaxis, gastroenterology, toxicology, and environmental emergencies integrating case presentation and emphasizing pharmacotherapeutics. Upon completion, students should be able to recognize and manage frequently encountered medical conditions based upon initial patient impression.

EMS 260 Advanced Trauma Emergencies (1-3-0-2)

Prerequisites: BIO 168, EMS 120, EMS 121, EMS 130, EMS 131, EMS 210, EMS 220

Corequisites: EMS 221

This course provides in-depth study of trauma including pharmacological interventions for conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include

hemorrhage control, shock, burns, and trauma to head, spine, soft tissue, thoracic, abdominal, and musculoskeletal areas with case presentations utilized for special problems situations. Upon completion, students should be able to recognize and manage trauma situations based upon patient impressions and should meet requirements of BTLS or PHTLS courses.

EMS 270 Life Span Emergencies (2-2-0-3)

Prerequisites: EMS 120, EMS 121, EMS 130, EMS 131, EMS 210, EMS 220, EMS 221, EMS 250, EMS 260

Corequisites: EMS 231

This course, required for paramedic certification, covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death. Topics include gynecological, obstetrical, neonatal, pediatric, and geriatric emergencies and pharmacological therapeutics. Upon completion, students should be able to recognize and treat age-specific emergencies and certify at the Pediatric Advanced Life Support Provider level.

EMS 280 EMS Bridging Course (2-2-0-3)

Prerequisites: CURRENT NC Paramedic Certification or Departmental Approval

Corequisites: None

This course is designed to bridge the knowledge gained in a continuing education paramedic program with the knowledge gained in an EMS curriculum program. Topics include patient assessment, documentation, twelve-lead ECG analysis, thrombolytic agents, cardiac pacing, and advanced pharmacology. Upon completion, students should be able to perform advanced patient assessment documentation using the problem oriented medical record format and manage complicated patients.

EMS 285 EMS Capstone (1-3-0-2)

Prerequisites: BIO 168, EMS 210, EMS 221

Corequisites: EMS 231

This course provides an opportunity to demonstrate problem-solving skills as a team leader in simulated patient scenarios and is required for paramedic certification. Emphasis is placed on critical thinking, integration of didactic and psychomotor skills, and effective performance in simulated emergency situations. Upon completion, students should be able to recognize and appropriately respond to a variety of EMS-related events.

ENGLISH

ENG 080 Writing Foundations (3-2-0-4)

Prerequisites: Appropriate placement test scores

Corequisites: None

This course introduces the writing process and stresses effective sentences. Emphasis is placed on applying the conventions of written English, reflecting standard usage and mechanics in structuring a variety of sentences. Upon completion, students should be able to write correct sentences and a unified, coherent paragraph.

ENG 090 Composition Strategies (3-0-0-3)

Prerequisites: ENG 080
or appropriate placement test score

Corequisites: None

This course provides practice in the writing process and stresses effective paragraphs. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay.

ENG 090A Comp Strategies Lab (0-2-0-1)

Prerequisites: ENG 080
or appropriate placement test score

Corequisites: ENG 090

This writing lab is designed to practice the skills introduced in ENG 090. Emphasis is placed on learning and applying the conventions of standard written English in developing paragraphs within the essay. Upon completion, students should be able to compose a variety of paragraphs and a unified, coherent essay.

ENG 101 Applied Communications I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is designed to enhance reading and writing skills for the workplace. Emphasis is placed on technical reading, job-related vocabulary, sentence writing, punctuation, and spelling. Upon completion, students should be able to identify main ideas with supporting details and produce mechanically correct short writings appropriate to the workplace. *This is a diploma-level course.*

ENG 111 Expository Writing (3-0-0-3)

Prerequisites: ENG 090, RED 090

Corequisites: None

This course is the required first course in a series of two designed to develop the ability to produce clear expository prose. Emphasis is placed on the writing process including audience analysis, topic selection, thesis support and development, editing, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition. This course is also available through the Virtual Learning Community (VLC).*

ENG 112 Argument-Based Research (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course, the second in a series of two, introduces research techniques, documentation styles, and argumentative strategies. Emphasis is placed on analyzing data and incorporating research findings into documented argumentative essays and research projects. Upon completion, students should be able to summarize, paraphrase, interpret, and synthesize information from primary and secondary sources using standard research format and style. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition. This course is also available through the Virtual Learning Community (VLC).*

ENG 113 Literature-Based Research (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course, the second in a series of two, expands the concepts developed in ENG 111 by focusing on writing that involves literature-based research and documentation. Emphasis is placed on critical reading and thinking and the analysis and interpretation of prose, poetry, and drama: plot, characterization, theme, cultural context, etc. Upon completion, students should be able to construct mechanically-sound, documented essays and research papers that analyze and respond to literary works. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition. This course is also available through the Virtual Learning Community (VLC).*

ENG 114 Prof Research & Reporting (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in English composition. This course is also available through the Virtual Learning Community (VLC).*

ENG 125 Creative Writing I (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing, fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ENG 131 Introduction to Literature (3-0-0-3)

Prerequisites: ENG 111

Corequisites: ENG 112, ENG 113 or ENG 114

This course introduces the principal genres of literature. Emphasis is placed on literary terminology, devices, structure, and interpretation. Upon completion, students should be able to analyze and respond to literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ENG 231 American Literature I (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed

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on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ENG 232 American Literature 11 (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ENG 241 British Literature I (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ENG 242 British Literature II (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

ENG 272 Southern Literature (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course provides an analytical study of the works of several Southern authors. Emphasis is placed on the historical and cultural contexts, themes, aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. *This course has been approved to*

satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

ENG 273 African-American Literature (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course provides a survey of the development of African-American literature from its beginnings to the present. Emphasis is placed on historical and cultural context, themes, literary traditions, and backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and respond to selected texts. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. This course is also available through the Virtual Learning Community (VLC).*

ENG 274 Literature by Women (3-0-0-3)

Prerequisites: ENG 112, ENG 113 or ENG 114

Corequisites: None

This course provides an analytical study of the works of several women authors. Emphasis is placed on the historical and cultural contexts, themes and aesthetic features of individual works, and biographical backgrounds of the authors. Upon completion, students should be able to interpret, analyze, and discuss selected works. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

ENG 275 Science Fiction (3-0-0-3)

Prerequisites: ENG 112, ENG 113, or ENG 114.

Corequisites: None

This course covers the relationships between science and literature through analysis of short stories and novels. Emphasis is placed on scientific discoveries that shaped Western culture and our changing view of the universe as reflected in science fiction literature. Upon completion, students should be able to trace major themes and ideas and illustrate relationships between science, worldview, and science fiction literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

FIRE PROTECTION TECHNOLOGY

FIP 120 Intro to Fire Protection (2-0-0-2)

Prerequisites: None

Corequisites: None

This course provides an overview of the history, development, methods, systems, and regulations as they apply to the fire protection field. Topics include history, evolution, statistics, suppression, organizations, careers, curriculum, and other related topics. Upon completion, students should be able to demonstrate a broad understanding of the fire protection field.

FIP 124 Fire Prevention & Public Ed (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces fire prevention concepts as they relate to community and industrial operations.

Topics include the development and maintenance of fire prevention programs, educational programs, and inspection programs. Upon completion, students should be able to research, develop, and present a fire safety program to a citizens or industrial group.

FIP 128 Detection & Investigation (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers procedures for determining the origin and cause of accidental and incendiary fires. Topics include collection and preservation of evidence, detection and determination of accelerants, courtroom procedure and testimony, and documentation of the fire scene. Upon completion, students should be able to conduct a competent fire investigation and present those findings to appropriate officials or equivalent.

FIP 132 Building Construction (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the principles and practices related to various types of building construction, including residential and commercial, as impacted by fire conditions. Topics include types of construction and related elements, fire resistive aspects of construction materials, building codes, collapse, and other related topics. Upon completion, students should be able to understand and recognize various types of construction and their positive or negative aspects as related to fire conditions.

FIP 136 Inspections & Codes (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the fundamentals of fire and building codes and procedures to conduct an inspection. Topics include review of fire and building codes, writing inspection reports, identifying hazards, plan reviews, site sketches, and other related topics. Upon completion, students should be able to conduct a fire code compliance inspection and produce a written report.

FIP 140 Industrial Fire Protect (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers fire protection systems in industrial facilities. Topics include applicable health and safety standards, insurance carrier regulations, other regulatory agencies, hazards of local industries, fire brigade operation, and loss prevention programs. Upon completion, students should be able to prepare a procedure to plan, organize, and evaluate an industrial facility's fire protection

FIP 144 Sprinklers & Auto Alarms (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces various types of automatic sprinklers, standpipes, and fire alarm systems. Topics include wet or dry systems, testing and maintenance, water supply requirements, fire detection and alarm systems, and other related topics. Upon completion, students should be able to demonstrate a working knowledge of various sprinkler and alarm systems and required inspection and maintenance.

FIP 152 Fire Protection Law (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers fire protection law. Topics include torts, legal terms, contracts, liability, review of case histories, and other related topics. Upon completion, students should be able to discuss laws, codes, and ordinances as they relate to fire protection.

FIP 220 Fire Fighting Strategies (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides preparation for command of initial incident operations involving emergencies within both the public and private sector. Topics include incident management, fire-ground tactics and strategies, incident safety, and command/ control of emergency operations. Upon completion, students should be able to describe the initial incident system as it relates to operations involving various emergencies in fire and non-fire situations.

FIP 224 Instructional Methodology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the knowledge, skills, and abilities needed to train others in fire service operations. Topics include planning, presenting, and evaluating lesson plans, learning styles, use of media, communication, and other related topics. Upon completion, students should be able to meet all requirements of NFPA 1041 Fire Service Instructor Level Two.

FIP 228 Local Govt Finance (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces local governmental financial principles and practices. Topics include budget preparation and justification, revenue policies, statutory requirements, taxation, audits, and the economic climate. Upon completion, students should be able to comprehend the importance of finance as it applies to the operation of a department.

FIP 230 Chem of Hazardous Mat I (5-0-0-5)

Prerequisites: None

Corequisites: None

This course covers the evaluation of hazardous materials. Topics include use of the periodic table, hydrocarbon derivatives, placards and labels, parameters of combustion, and spill and leak mitigation. Upon completion, students should be able to demonstrate knowledge of the chemical behavior of hazardous materials.

FIP 232 Hydraulics & Water Dist (2-2-0-3)

Prerequisites: MAT 115

Corequisites: None

This course covers the flow of fluids through fire hoses, nozzles, appliances, pumps, standpipes, water mains, and other devices. Emphasis is placed on supply and delivery systems, fire flow testing, hydraulic calculations, and other related topics. Upon completion, students should be able to perform hydraulic calculations, conduct water availability tests, and demonstrate knowledge of water distribution systems.

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FIP 236 Emergency Management (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles of government agencies at all levels. Upon completion, students should be able to demonstrate an understanding of comprehensive emergency management and the integrated emergency management system.

FIP 240 Fire Service Supervision (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers supervisory skills and practices in the fire protection field. Topics include the supervisor's job, supervision skills, the changing work environment, managing change, organizing for results, discipline and grievances, and loss control. Upon completion, students should be able to demonstrate an understanding of the roles and responsibilities of the effective fire service supervisor.

FIP 252 Apparatus Spec & Purch (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers the specification and purchase of fire apparatus. Emphasis is placed on NFPA standards for apparatus, recommended types of fire apparatus, purchase and bidding procedures, and the importance of specifications. Upon completion, students should be able to make internal decisions, write specifications, and make recommendations for the purchase of major capital equipment.

FIP 256 Munic Public Relations (2-0-0-2)

Prerequisites: None

Corequisites: None

This course is a general survey of municipal public relations and their effect on the governmental process. Topics include principles of public relations, press releases, press conferences, public information officers, image surveys, and the effects of perceived service on fire protection delivery. Upon completion, students should be able to manage the public relations functions of a fire service organization.

FIP 276 Managing Fire Services (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an overview of fire department operative services. Topics include finance, staffing, equipment, code enforcement, management information, specialized services, legal issues, planning, and other related topics. Upon completion, students should be able to understand concepts and apply fire department management and operations principles.

FRENCH

FRE 111 Elementary French I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the fundamental elements of the French language within a cultural context.

Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 112 Elementary French II (3-0-0-3)

Prerequisites: FRE 111

Corequisites: None

This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 211 Intermediate French I (3-0-0-3)

Prerequisites: FRE 112

Corequisites: None

This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

FRE 212 Intermediate French II (3-0-0-3)

Prerequisites: FRE 211

Corequisites: None

This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

GEOGRAPHY

GEO 111 World Regional Geography (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course introduces the regional concept which emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

GEO 112 Cultural Geography (3-0-0-3)

Prerequisites: RED 090 and ENG 090

Corequisites: None

This course is designed to explore the diversity of human cultures and to describe their share characteristics. Emphasis is placed on the characteristics, distribution, and complexity of earth's cultural patterns. Upon completion, students should be able to demonstrate an understanding of the differences and similarities in human cultural groups. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

GEO 130 General Physical Geography (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces both the basic physical components that help shape the earth and the study of minerals, rocks, and evolution of landforms. Emphasis is placed on the geographic grid, cartography, weather, climate, mineral composition, fluvial processes, and erosion and deposition. Upon completion, students should be able to identify these components and processes and explain how they interact. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

GEO 131 Physical Geography I (3-2-0-4)

Prerequisites: RED 090

Corequisites: None

This course introduces the basic physical components that help shape the earth. Emphasis is placed on the geographic grid, cartography, weather, climate, biogeography, and soils. Upon completion, students should be able to identify these components and explain how they interact. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

GEO 132 Physical Geography II (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces the study of minerals, rocks, evolution of landforms, and consequences of landscape change. Emphasis is placed on mineral composition, fluvial processes, erosion and deposition, glaciers, and coastal processes. Upon completion, students should be able to identify these components and processes and to explain how they interact. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

GEOLOGY

GEL 111 Introductory Geology(3-2-0-4)

Prerequisites: RED 090 and MAT 070

Corequisites: None

This course introduces basic landforms and geological processes. Topics include rocks minerals, volcanoes, fluvial processes, geological history, plate tectonics, glaciers, and coastal dynamics. Upon

completion, students should be able to describe basic geological processes that shape the earth. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

GERMAN

GER 111 Elementary German I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the fundamental elements of the German language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written German and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

GER 112 Elementary German II (3-0-0-3)

Prerequisites: GER 111

Corequisites: None

This course is a continuation of GER 111 focusing on the fundamental elements of the German language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written German and demonstrate further cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

GER 181 German Lab 1 (0-2-0-1)

Prerequisites: None

Corequisites: GER 111

This course provides an opportunity to enhance acquisition of the fundamental elements of the German language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written German and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HEALTH

HEA 110 Personal Health/Wellness (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

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HEA 112 First Aid & CPR (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. *This course has been approved for transfer through the Comprehensive Articulation Agreement. This course meets requirements for First Responder Training and American Heart Association guidelines including AED training.*

HISTORY

HIS 111 World Civilizations I (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences.*

HIS 112 World Civilizations II (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

HIS 114 Comparative World History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides a comparison of western and non-western cultures. Emphasis is placed on historical developments and their impact on the modern world through religion, politics, economics, and social developments. Upon completion, students should be able to compare and contrast western and non-western cultures. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences.*

HIS 116 Current World Problems (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers current world events from an historical perspective. Topics include regional problems as well as international concerns. Upon completion,

students should be able to analyze significant current world problems from an historical perspective. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 121 Western Civilization I (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces western civilization from pre-history to the early modern era. Topics include ancient Greece, Rome, and Christian institutions of the Middle Ages and the emergence of national monarchies in western Europe.

Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

HIS 122 Western Civilization II (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political socioeconomic and cultural developments in modern western civilization. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

HIS 131 American History I (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

HIS 132 American History II (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. *This course has been approved to satisfy the Comprehensive Articulation Agreement general*

education core requirement in social behavioral sciences. This course is also available through the Virtual Learning Community (VLC).

HIS 161 Science and Technology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course examines the history of science and technology from pre-history to the present. Topics include the origins, impact, and consequences of scientific and technological developments. Upon completion, students should be able to analyze significant developments in the history of science and technology. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 162 Women and History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 211 Ancient History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course traces the development of the cultural, intellectual, and political foundations of western civilization. Topics include the civilizations of the Near East, the classical Greek and Hellenistic eras, the Roman world, Judaism, and Christianity. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the ancient world. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 212 Medieval History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course traces the cultural, political, economic, social, religious, and intellectual history of Europe during the Middle Ages. Topics include the decline of the Roman Empire, the Frankish Kingdoms, the medieval church, feudalism, the rise of national monarchies, urbanization, and the rise of universities. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in medieval Europe. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 213 Modern Europe to 1815 (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course traces the cultural, political, economic, social, religious, and intellectual history of Europe

from the end of the Middle Ages to 1815. Topics include the Renaissance, the Reformation, religious wars, absolutism, colonialism, the Scientific Revolution, the Enlightenment, the French Revolution, and Napoleon. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early modern Europe. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 214 Modern Europe Since 1815 (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course traces the history of Europe from 1815 to the present. Topics include the Congress of Vienna, the Revolutionary era, liberalism, socialism, imperialism, nationalism, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant intellectual, political, socioeconomic, and cultural developments in modern Europe since 1815. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 221 African-American History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers African-American history from the Colonial period to the present. Topics include African origins, the slave trade, the Civil War, Reconstruction, the Jim Crow era, the civil rights movement, and contributions of African Americans. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the history of African Americans. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HIS 236 North Carolina History (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HUMANITIES

HUM 101 Values in the Workplace (2-0-0-2)

Prerequisites: None

Corequisites: None

This course is a study of the influence of human values in the workplace and of the workplace on human values. Emphasis is placed on the ways in which the

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workplace affects and is affected by human values. Upon completion, students should be able to demonstrate a broad-based awareness and appreciation of the inter-connectedness between human values and the world of work. *This is a diploma-level course.*

HUM 110 Technology and Society (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

HUM 115 Critical Thinking (3-0-0-3)

Prerequisites: RED 090 and ENG 111

Corequisites: None

This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts. This course may meet the SACS humanities requirement for AAS degree programs. This course is also available through the Virtual Learning Community (VLC).*

HUM 120 Cultural Studies (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 150 American Women's Studies (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts. This course is also available through the Virtual Learning Community (VLC).*

HUM 160 Introduction to Film (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

HUM 196 Seminar in Humanities (1-0-0-1)

Prerequisites: None

Corequisites: None

This course provides an opportunity to explore topics of current interest. Emphasis is placed on the development of critical listening skills and the presentation of seminar issues. Upon completion, students should be able to critically analyze issues and establish informed opinions. Colleges may use the fourth sentence to specify other college requirements.

HUM 211 Humanities I (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the inter-connectedness of various aspects of cultures from ancient through earlymodern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 220 Human Values and Meaning (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course presents some major dimensions of human experience as reflected in art, music, literature, philosophy, and history. Topics include the search for identity, the quest for knowledge, the need for love, the individual and society, and the meaning of life. Upon completion, students should be able to recognize interdisciplinary connections and distinguish between open and closed questions and between narrative and scientific models of understanding. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

HUM 230 Leadership Development (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course explores the theories and techniques of leadership and group process. Emphasis is placed on leadership styles, theories of group dynamics, and the moral and ethical responsibilities of leadership. Upon completion, students should be able to identify and analyze a personal philosophy and style of leadership

and integrate these concepts in various practical situations. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

HYDRAULICS AND PNEUMATICS

HYD 110 Hydraulics/Pneumatics I (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting. Oral and written communications skills will be emphasized.

INDUSTRIAL SYSTEMS TECHNOLOGY - See MNT

INTERNATIONAL BUSINESS

INT 110 International Business (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an overview of the environment, concepts, and basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, governmental influences on trade and strategies, international organizations, multinational corporations, personnel management, and international marketing. Upon completion, students should be able to describe the foundation of international business.

INDUSTRIAL SCIENCE

ISC 112 Industrial Safety (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces the principles of industrial safety. Emphasis is placed on industrial safety, OSHA, and environmental regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance. Occupational health and safety topics relating to the modern industrial environment will be covered. *This course is also available through Virtual Learning Community (VLC).*

ISC 128 Industrial Leadership (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces principles and techniques for managers in modern industry. Topics include leadership traits, management principles and processes, managing conflict, group dynamics, team building, counseling, motivation, and communication. Upon completion, students should be able to understand and apply leadership and management principles in work situations.

ISC 132 Mfg Quality Control (2-3-0-3)

Prerequisites: MAT 080 or MAT 120

Corequisites: None

This course introduces quality concepts and techniques used in industry. Topics include elementary statistics and probability, process control, process capability, and quality improvement tools. Upon completion, students should be able to demonstrate an understanding of the concepts and principles of quality and apply them to the work environment.

ISC 133 Mfg Management Practices (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers successful industrial organizations and management practices for improving quality and productivity. Topics include self-managed work teams, problem-solving skills, and production management techniques. Upon completion, students should be able to demonstrate an understanding of day-to-day plant operations, team management processes, and the principles of group dynamics.

ISC 135 Principles of Industrial Mgmt (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the managerial principles and practices required for organizations to succeed in modern industry. Topics include the functions and roles of all levels of management, organization design, and planning and control of manufacturing operations. Upon completion, students should be able to demonstrate an understanding of management principles and integrate these principles into job situations.

ISC 136 Productivity Analysis I (2-3-0-3)

Prerequisites: MAT 080 or MAT 120

Corequisites: None

This course covers methods of measuring, analyzing, and improving productivity. Topics include methods analysis, standardized practices, process analysis, and human factors. Upon completion, students should be able to apply productivity improvement techniques.

ISC 222 Project Planning/Control (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers how to plan, schedule and control projects typical in manufacturing and service industries. Topics include fundamental project management concepts and hands-on computer application experience with process flow charting and PERT/CPM project managers. Upon completion, students should be able to plan, schedule and control projects using state-of-the-art computer application programs.

ISC 223 Quantitative Methods (3-0-0-3)

Prerequisites: MAT 122

Corequisites: None

This course introduces the quantitative methods involved in operations management decision making. Topics include linear programming, forecasting techniques, inventory control, project management, decision analysis, and simulation modeling. Upon

Course Descriptions

completion, students should be able to interpret quantitative results and demonstrate appropriate decision-making skills. Oral and written communications skills will be emphasized.

ISC 230 Simulation Prod Processes (1-3-0-2)

Prerequisites: MAT 080 or MAT 120

Corequisites: None

This course introduces fundamental principles and procedures for simulation modeling of production processes. Emphasis is placed on problem-solving and engineering applications of simulation modeling for quality enhancement and productivity improvement. Upon completion, students should be able to analyze and model a production process to obtain optimum productive operations. Oral and written communications skills will be emphasized.

ISC 233 Industrial Org & Mgmt (3-0-0-3)

Prerequisites: ISC 133 or ISC 128

Corequisites: None

This course covers advanced organization and management philosophies for organization improvement. Emphasis is placed on understanding comprehensive organization improvement concepts such as reengineering, MBQA, ISO 9000, and teams. Upon completion, students should be able to demonstrate an understanding of organizations and assess their strengths and weaknesses. Oral and written communications skills will be emphasized.

ISC 235 Management Problems (3-0-0-3)

Prerequisites: ISC 135

Corequisites: None

This course covers problem-solving strategies for a variety of industrial management problems. Emphasis is placed on integrating management principles and practices in an industrial setting through a case-study approach. Upon completion, students should be able to analyze a variety of management problems and provide oral and/or written reports which include problem definition and recommendations. Oral and written communications skills will be emphasized.

ISC 236 Productivity Analysis II (2-3-0-3)

Prerequisites: ISC 136

Corequisites: None

This course covers advanced process and system productivity improvement concepts. Topics include work measurement techniques, resource measurement and planning, team improvement concepts, and team productivity measurements. Upon completion, students should be able to demonstrate an understanding of advanced productivity concepts and apply advanced productivity improvement techniques to work situations.

ISC 237 Quality Management (2-3-0-3)

Prerequisites: ISC 128 or BUS 137

Corequisites: None

This course covers the process by which successful manufacturing organizations achieve customer satisfaction in all processes in the organization. Topics include quality models and approaches, such as MBNQA, ISO 9000, benchmarking, and Deming's 14 Points, and the incorporation of SPC improvement

techniques. Upon completion, students should be able to integrate SPC techniques with successful management practices for a comprehensive understanding of continuous quality improvement. Oral and written communications skills will be emphasized.

ISC 243 Prod & Oper Management I (2-3-0-3)

Prerequisites: MAT 080 or MAT 120

Corequisites: None

This course introduces concepts used to analyze and solve productivity and operational problems. Topics include operations strategy, forecasting, resource allocation, and materials management. Upon completion, students should be able to recognize, analyze, and solve a variety of productivity and operational problems.

ISC 244 Prod & Oper Management II (2-3-0-3)

Prerequisites: ISC 243

Corequisites: None

This course covers advanced production and operations management concepts, including the use of computer programs to analyze/solve manufacturing problems. Topics include systems analysis, resource allocation, cost control, and productivity improvement using advanced tools such as linear programming, ABC costing, manufacturing modeling, and manufacturing simulation. Upon completion, students should be able to recognize, analyze, and solve a variety of complex production and operations problems.

ISC 255 Engineering Economy (2-2-0-3)

Prerequisites: MAT 080 or MAT 120

Corequisites: None

This course covers the process of economic evaluation of manufacturing industrial alternatives such as equipment selection, replacement studies, and cost reduction proposals. Topics include discounted cash flows, time value of money, income tax considerations, internal rates of return, and comparison of alternatives using computer programs. Upon completion, students should be able to analyze complex manufacturing alternatives based on engineering economy principles.

ISC 256 System Design (2-3-0-3)

Prerequisites: Departmental Approval

Corequisites: ISC 236

This course incorporates all phases of industrial engineering into the comprehensive design of an industrial system. Emphasis is placed on developing project reports which reflect a comprehensive understanding of industrial engineering and the analytical tools used to plan work systems. Upon completion, students should be able to demonstrate a comprehensive knowledge of industrial engineering through this capstone course. Oral and written communications skills will be emphasized.

JEWELRY DESIGN - See Art

LEGAL EDUCATION

LEX 110 Introduction to Paralegal Study (2-0-0-2)

Prerequisites: ENG 090

Corequisites: None

This course introduces the paralegal profession and the legal system, and an emphasis is placed on the role of professional and legal ethics. Topics include regulations, ethics, case analysis, legal reasoning, career opportunities, professional organizations, terminology and other related topics. Upon completion, the student should be able to explain the role of a paralegal and identify the skills, knowledge, and ethics required of paralegals. *This course is also available through the Virtual Learning Community (VLC).*

LEX 120 Legal Research/Writing I (2-2-0-3)

Prerequisites: ENG 111

Corequisites: None

This course introduces the techniques of legal research and writing. Emphasis is placed on 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 legal research and writing assignments using techniques covered in the course. *This course is also available through the Virtual Learning Community (VLC).*

LEX 121 Legal Research/Writing II (2-2-0-3)

Prerequisites: ENG 111 and LEX 120

Corequisites: None

This course covers advanced topics in legal research and writing. Topics include 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, students should be able to perform legal research and writing assignments using techniques covered in the course.

LEX 130 Civil Injuries (3-0-0-3)

Prerequisites: ENG 090

Corequisites: None

This course covers traditional tort concepts and the evolving body of individual rights created by statute. Topics include intentional and non intentional torts with emphasis on negligence, strict liability, civil rights, workplace and environmental liability, remedies, and damages. Upon completion, students should be able to recognize, explain, and evaluate elements of civil injuries and related defenses. *This course is also available through the Virtual Learning Community (VLC).*

LEX 140 Civil Litigation I (3-0-0-3)

Prerequisites: ENG 090

Corequisites: None

This course introduces the structure of the legal system and the rules governing civil litigation. Topics include jurisdiction, state and federal rules of civil procedure and evidence. Upon completion, students should be able to assist an attorney in the preparation of pleadings and motions. *This course is also available through the Virtual Learning Community (VLC).*

LEX 141 Civil Litigation II (2-2-0-3)

Prerequisites: LEX 140

Corequisites: None

This course covers advanced topics in the civil litigation process. Topics include motions, discovery, and trial and appellate procedures. Upon completion, students should be able to assist an attorney in preparing and organizing documents for trial, settlement and post-trial practice.

LEX 150 Commercial Law I (2-2-0-3)

Prerequisites: ENG 090

Corequisites: None

This course covers legally enforceable agreements, forms of organization, and selected portions of the Uniform Commercial Code. Topics include drafting and enforcement of contracts, leases, and related documents and selection and implementation of business organization forms, sales, and commercial papers. Upon completion, students should be able to apply the elements of a contract, prepare various business documents, and understand the role of commercial paper. *This course is also available through the Virtual Learning Community (VLC).*

LEX 160 Criminal Law & Procedure (2-2-0-3)

Prerequisites: ENG 090

Corequisites: None

This course introduces substantive criminal law and procedural rights of the accused. Topics include elements of state/federal crimes, defenses, constitutional issues, pre-trial and trial process, and other related topics. Upon completion, students should be able to explain elements of specific crimes and assist an attorney in preparing a criminal case.

LEX 170 Administrative Law (2-0-0-2)

Prerequisites: ENG 090

Corequisites: None

This course covers the scope, authority, and regulatory operations of various federal, state, and local administrative agencies. Topics include social security, worker's compensation, unemployment, zoning, and other related topics. Upon completion, students should be able to research sources of administrative law, investigate, and assist in representation of clients before administrative agencies.

LEX 198 Seminar in Legal Education (3-0-0-3)

Prerequisites: ENG 090

Corequisites: None

This course provides an opportunity to explore topics of current interest. Emphasis is placed on the development of critical listening skills and the presentation of seminar issues. Upon completion, students should be able to critically analyze issues and establish informed opinions.

LEX 210 Real Property I (3-0-0-3)

Prerequisites: ENG 090

Corequisites: None

This course introduces the study of real property law. Topics include the distinction between real and personal property, various estates, mechanics of conveyance and encumbrance, recordation, special proceedings, and other related topics. Upon completion, students should be able to identify estates, forms of

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deeds, requirements for recording, and procedures to enforce rights to real property. *This course is also available through the Virtual Learning Community (VLC).*

LEX 211 Real Property II (1-4-0-3)

Prerequisites: LEX 210

Corequisites: None

This course continues the study of real property law relating to title examination and preparation of closing documents. Topics include use of courthouse and other public records in title examination and preparation of documents required in real estate transactions and closings. Upon completion, students should be able to plot/draft a description, perform complete title examination, draft closing documents including title insurance forms, and prepare disbursement reconciliation.

LEX 220 Corporate Law (2-0-0-2)

Prerequisites: ENG 090

Corequisites: None

This course covers the legal aspects of forming, operating, and maintaining a business. Emphasis is placed on the business corporation with additional coverage of sole proprietorships and partnerships. Upon completion, students should be able to draft basic partnership and corporate documents and file these documents as required.

LEX 240 Family Law (3-0-0-3)

Prerequisites: ENG 090

Corequisites: None

This course covers laws governing domestic relations. Topics include marriage, separation, divorce, child custody, support, property division, adoption, domestic violence, and other related topics. Upon completion, students should be able to interview clients, gather information, and draft documents related to family law. *This course is also available through the Virtual Learning Community (VLC).*

LEX 250 Wills, Estates, & Trusts (2-2-0-3)

Prerequisites: ENG 090

Corequisites: None

This course covers various types of wills, trusts, probate, estate administration, and intestacy. Topics include types of wills and execution requirements, caveats and dissents, intestate succession, inventories and accountings, distribution and settlement, and other related topics. Upon completion, students should be able to draft simple wills, prepare estate forms, understand administration of estates including taxation, and explain terms regarding trusts.

LEX 260 Bankruptcy & Collections (3-0-0-3)

Prerequisites: ENG 090

Corequisites: None

This course provides an overview of the laws of bankruptcy and the rights of creditors and debtors. Topics include bankruptcy procedures and estate management, attachment, claim and delivery, repossession, foreclosure, collection, garnishment, and post-judgment collection procedure. Upon completion, students should be able to prepare and file bankruptcy forms, collection letters, statutory liens, and collection of judgments.

LEX 270 Law Office Mgt/Technology (1-2-0-2)

Prerequisites: ENG 090

Corequisites: None

This course provides an overview of law office management and organization. Topics include office forms, filing systems, billing/time keeping, computer systems, calendar systems, library administration, case management, office/personnel procedures, ethics, and technology. Upon completion, students should be able to establish and maintain various law office systems, monitor case progress, and supervise non-lawyer personnel.

LEX 280 Ethics & Professionalism (2-0-0-2)

Prerequisites: ENG 090

Corequisites: None

This course covers various aspects of civil and criminal investigation. Topics include locating witnesses, interviewing techniques, obtaining records, sketching and photographing accident scenes, collecting and preserving evidence, and preparation of exhibits for trial. Upon completion, students should be able to locate witnesses, prepare questionnaires, interview witnesses, obtain criminal/motor vehicle/medical/accident records, sketch scenes, and prepare exhibits.

LEX 287 CLA Review Seminar (2-0-0-2)

Prerequisites: LEX 210

Corequisites: None

This course is designed to prepare students for voluntary national certification sponsored by the National Association of Legal Assistants to demonstrate significant competencies in paralegalism. Topics include Communications, Ethics, Human Relations, Interviewing Techniques, Judgment and Analytical Analysis, Legal Research, Legal Terminology, General Law and nine tested specialty areas of law. Upon completion, students should be able to demonstrate that they are eligible to take the NALA's Certified Legal Assistant Exam.

LEX 288 Elder Law(3-0-0-3)

Prerequisites: LEX 211

Corequisites: None

This course provides an overview of laws especially relevant to older persons. Topics include healthcare decision-making, living wills, powers of attorney, financial and estate planning, government benefits, housing issues, elder abuse, and ethical considerations. Upon completion, students should be able to describe the methods for assisting attorneys in addressing legal issues pertinent to the elderly.

LOGISTICS MANAGEMENT

LOG 110 Introduction to Logistics (3-0-0-3)

Prerequisites: None

Corequisites: None

The course provides an overview of logistics. Topics include traffic management, warehousing, inventory control, material handling, global logistics, and the movement and storage of goods from raw materials sources to end consumers. Upon completion, students should be able to identify the different segments of logistics and use the terminology of the industry.

LOG 120 Global Logistics (3-0-0-3)

Prerequisites: LOG 110

Corequisites: None

This course examines logistics operations, processes, and modes of transportation in an interdependent world economy. Emphasis is placed on freight forwarding operations, analyzing and selecting transportation modes, and processing of import/export documentation. Upon completion students should be able to arrange and coordinate the transportation of products globally. *This course is a unique concentration requirement of the Logistics Management concentration in the Business Administration program.*

LOG 210 Fleet Management (3-0-0-3)

Prerequisites: LOG 110

Corequisites: None

This course covers the management of transportation, fleet operations, and safety. Emphasis is placed on DOT safety regulations in the hiring, training, and supervision of drivers in transportation. Upon completion, students should be able to write a safety program for drivers involved in interstate commerce following DOT regulations. *This course is a unique concentration requirement of the Logistics Management concentration in the Business Administration program.*

LOG 220 Logistics Management (3-0-0-3)

Prerequisites: LOG 110

Corequisites: None

This course covers the management of the movement and storage of goods and analysis of total costs involved. Emphasis is placed on the monitoring of inventory using automated systems, managing the storage function, warehousing, and distribution. Upon completion, students should be able to describe warehousing and facility layouts, identify material handling methods, and apply inventory control procedures. *This course is a unique concentration requirement of the Logistics Management concentration in the Business Administration program.*

LOG 230 Transportation Management (3-0-0-3)

Prerequisites: LOG 110

Corequisites: None

This course covers the function of shippers and carriers in the transportation industry. Emphasis is placed on negotiating price and service requirements in the movement of goods, identifying areas of carrier liability, and the methods for processing claims. Upon completion, students should be able to compare common carriers and company operated transportation for service and cost, interpret pricing structures, and determine carrier liability. *This course is a unique concentration requirement of the Logistics Management concentration in the Business Administration program.*

MACHINE TECHNOLOGY

MAC 111 Machining Technology I (2-12-0-6)

Prerequisites: None

Corequisites: None

This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling

machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, students should be able to safely perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 112 Machining Technology II (2-12-0-6)

Prerequisites: MAC 111

Corequisites: None

This course provides additional instruction and practice in the use of precision measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection and use of work holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, students should be able to perform basic procedures on precision grinders and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

MAC 113 Machining Technology III (2-12-0-6)

Prerequisites: MAC 112

Corequisites: None

This course provides an introduction to advanced and special machining operations. Emphasis is placed on working to specified tolerances with special and advanced setups. Upon completion, students should be able to produce a part to specifications.

MAC 114 Intro to Metrology (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces the care and use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.

MAC 121 Intro to CNC (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include setup, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.

MAC 122 CNC Turning (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers. The primary focus will be on the Fanuc series 0 control and supporting G-codes.

MAC 124 CNC Milling (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces the manual programming, setup, and operation of CNC machining centers. Topics include programming formats, control

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functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC machining centers.

MAC 222 Advanced CNC Turning (1-3-0-2)

Prerequisites: MAC 122

Corequisites: None

This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers. The primary focus will be on the Mazatrol programming format and control.

MAC 224 Advanced CNC Milling (1-3-0-2)

Prerequisites: MAC 124

Corequisites: None

This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

MAC 228 Advanced CNC Processes (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers advanced programming, setup, and operation of CNC turning centers and CNC milling centers. Topics include advanced programming formats, control functions, program editing, and part production and inspection. Upon completion, students should be able to manufacture complex parts using CNC turning and milling centers.

MAC 231 CNC Graphics Prog: Turning (1-4-0-3)

Prerequisites: MAC 121 or MAC 122

Corequisites: None

This course introduces Computer Numerical Control graphics programming and concepts for turning center applications. Emphasis is placed on the interaction of menus to develop a shape file in a graphics CAM system and to develop tool path geometry and part geometry. Upon completion, students should be able to develop a job plan using CAM software, include machine selection tool selection, operational sequence, speed, feed and cutting depth.

MAC 232 CNC Graphics Prog: Milling (1-4-0-3)

Prerequisites: MAC 121 or MAC 124

Corequisites: None

This course introduces Computer Numerical Control graphics programming and concepts for machining center applications. Emphasis is placed on developing a shape file in a graphics CAM system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, students should be able to develop a complete job plan using CAM software to create a multi-axis CNC program.

MAC 243 Die Making I (2-6-0-4)

Prerequisites: MAC 112

Corequisites: None

This course introduces the principles and applications of die making. Topics include types, construction, and

application of dies. Upon completion, students should be able to design and build simple dies.

MAC 245 Mold Construction I (2-6-0-4)

Prerequisites: MAC 112

Corequisites: None

This course introduces the principles of mold making. Topics include types, construction, and application of molds. Upon completion, students should be able to design and build simple molds.

MATH

MAT 060 Essential Mathematics (3-2-0-4)

Prerequisites: Appropriate placement test scores

Corequisites: None

This course is a comprehensive study of mathematical skills which should provide a strong mathematical foundation to pursue further study. Topics include principles and applications of decimals, fractions, percents, ratio and proportion, order of operations, geometry, measurement, and elements of algebra and statistics. Upon completion, students should be able to perform basic computations and solve relevant, multi-step mathematical problems using technology where appropriate.

MAT 070 Introductory Algebra (3-2-0-4)

Prerequisites: MAT 060

or appropriate placement test score

Corequisites: RED 080

or appropriate placement test score

This course establishes a foundation in algebraic concepts and problem solving. Topics include signed numbers, exponents, order of operations, simplifying expressions, solving linear equations and inequalities, graphing, formulas, polynomials, factoring, and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology. *This course is also available through the Virtual Learning Community (VLC).*

MAT 080 Intermediate Algebra (3-2-0-4)

Prerequisites: MAT 070

or appropriate placement test score

Corequisites: RED 080

or appropriate placement test score

This course continues the study of algebraic concepts with emphasis on applications. Topics include factoring; rational expressions; rational exponents; rational, radical, and quadratic equations; systems of equations; inequalities; graphing; functions; variations; complex numbers; and elements of geometry. Upon completion, students should be able to apply the above concepts in problem solving using appropriate technology.

MAT 101 Applied Mathematics I (2-2-0-3)

Prerequisites: MAT 060

Corequisites: None

This course is a comprehensive review of arithmetic with basic algebra designed to meet the needs of certificate and diploma programs. Topics include arithmetic and geometric skills used in measurement, ratio and proportion, exponents and roots, applications of percent, linear equations, formulas, and statistics. Upon completion, students should be able to solve

practical problems in their specific areas of study. *This course is intended for diploma programs.*

MAT 110 Mathematical Measurement (2-2-0-3)

Prerequisites: MAT 070

Corequisites: None

This course provides an activity-based approach to utilizing, interpreting, and communicating data in a variety of measurement systems. Topics include accuracy, precision, conversion, and estimation within metric, apothecary, and avoirdupois systems; ratio and proportion; measures of central tendency and dispersion; and charting of data. Upon completion, students should be able to apply proper techniques to gathering, recording, manipulating, analyzing, and communicating data.

MAT 115 Mathematical Models (2-2-0-3)

Prerequisites: MAT 070

Corequisites: None

This course develops the ability to utilize mathematical skills and technology to solve problems at a level found in non-mathematics intensive programs. Topics include applications to percent, ratio and proportion, formulas, statistics, functional notation, linear functions, probability, sampling techniques, scatter plots, and modeling. Upon completion, students should be able to solve practical problems, reason and communicate with mathematics, and work confidently, collaboratively, and independently. *This course is also available through the Virtual Learning Community (VLC).*

MAT 120 Geometry and Trigonometry (2-2-0-3)

Prerequisites: MAT 070

Corequisites: None

This course introduces the concepts of plane trigonometry and geometry with emphasis on applications to problem solving. Topics include the basic definitions and properties of plane and solid geometry, area and volume, right triangle trigonometry, and oblique triangles. Upon completion, students should be able to solve applied problems both independently and collaboratively using technology.

MAT 121 Algebra/Trigonometry I (2-2-0-3)

Prerequisites: MAT 120

Corequisites: None

This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include simplification, evaluation, and solving of algebraic and radical functions; complex numbers; right triangle trigonometry; systems of equations; and the use of technology. Upon completion, students should be able to demonstrate an understanding of the use of mathematics and technology to solve problems and analyze and communicate results.

MAT 122 Algebra/Trigonometry II (2-2-0-3)

Prerequisites: MAT 121

Corequisites: None

This course extends the concepts covered in MAT 121 to include additional topics in algebra, function analysis, and trigonometry. Topics include exponential and logarithmic functions, translation and scaling

of functions, Sine Law, Cosine Law, vectors and statistics. Upon completion, students should be able to demonstrate an understanding of the use of technology to solve problems and to analyze and communicate results.

MAT 140 Survey of Mathematics (3-0-0-3)

Prerequisites: MAT 070

Corequisites: None

This course provides an introduction in a non-technical setting to selected topics in mathematics. Topics may include, but are not limited to, sets, logic, probability, statistics, matrices, mathematical systems, geometry, topology, mathematics of finance, and modeling. Upon completion, students should be able to understand a variety of mathematical applications, think logically, and be able to work collaboratively and independently. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

MAT 151 Statistics I(3-0-0-3)

Prerequisites: RED 090 and MAT 080 or

MAT 120 or MAT 121 or

MAT 140

Corequisites: MAT 151A

This course provides a project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis is placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Upon completion, students should be able to describe important characteristics of a set of data and draw inferences about a population from sample data. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. This course is also available through the Virtual Learning Community (VLC).*

MAT 15 IA Statistics I Lab (0-2-0-1)

Prerequisites: MAT 080

Corequisites: MAT 151

This course is a laboratory for MAT 15 1. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MAT 155 Statistical Analysis (3-0-0-3)

Prerequisites: MAT 080 or MAT 090

Corequisites: None

This course is an introduction to descriptive and inferential statistics. Topics include sampling, distributions, plotting data, central tendency, dispersion, Central Limits Theorem, confidence intervals, hypothesis testing, correlations, regressions, and multinomial experiments. Upon completion, students should be able to describe data and test

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inferences about populations using sample data. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirements in natural sciences/mathematics (Quantitative Option).*

MAT 155A Statistics Analysis Lab (0-2-0-1)

Prerequisites: MAT 080 or MAT 090

Corequisites: MAT 155

This course is a laboratory for MAT 155. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

MAT 161 College Algebra (3-0-0-3)

Prerequisites: MAT 080

Corequisites: None

This course provides an integrated technological approach to algebraic topics used in problem solving. Emphasis is placed on applications involving equations and inequalities; polynomial, rational, exponential and logarithmic functions; and graphing and data analysis/modeling. Upon completion, students should be able to choose an appropriate model to fit a data set and use the model for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics for the Associate in Arts Degree. This course is also available through the Virtual Learning Community (VLC).*

MAT 161A College Algebra Lab (0-2-0-1)

Prerequisites: MAT 080

Corequisites: MAT 161

This course is a laboratory for MAT 161. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MAT 167 Discrete Mathematics (3-0-0-3)

Prerequisites: MAT 121, MAT 161, MAT 171, or MAT 280

Corequisites: None

This course is a study of discrete mathematics with emphasis on applications. Topics include number systems, combinations/permutations, mathematical logic/proofs, sets/counting, Boolean algebra, mathematical induction, trees/graphs, and algorithms. Upon completion, students should be able to demonstrate competence in the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

MAT 175 Precalculus (4-0-0-4)

Prerequisites: MAT 161 and MAT 161A, or departmental approval

Corequisites: MAT 175A

This course provides an intense study of the topics which are fundamental to the study of calculus. Emphasis is placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. Graphing calculators will be used to investigate the above topics as well as other topics. This course is also available through the Virtual Learning Community (VLC).*

MAT 175A Precalculus Lab (0-2-0-1)

Prerequisites: None

Corequisites: MAT 175

This course is a laboratory for MAT 175. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement. This course is also available through the Virtual Learning Community (VLC).*

MAT 223 Applied Calculus (2-2-0-3)

Prerequisites: MAT 122

Corequisites: None

This course provides an introduction to the calculus concepts of differentiation and integration by way of application and is designed for engineering technology students. Topics include limits, slope, derivatives, related rates, areas, integrals, and applications. Upon completion, students should be able to demonstrate an understanding of the use of calculus and technology to solve problems and to analyze and communicate results.

MAT 252 Statistics II (3-0-0-3)

Prerequisites: MAT 151 and either MAT 121 or MAT 161

Corequisites: MAT 252A

This course provides a technology-based treatment of multiple sample inferential statistics. Emphasis is placed on two sample hypothesis tests and confidence intervals, linear and multiple regression, analysis of variance, experimental design, and nonparametric techniques. Upon completion, students should be able to draw statistical inferences on multiple sample data taken from business and health, social, natural, and applied sciences. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MAT 252A Statistics II Lab (0-2-0-1)

Prerequisites: MAT 151 and either MAT 121 or MAT 161

Corequisites: MAT 252

This course is a laboratory for MAT 252. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MAT 263 Brief Calculus (3-0-0-3)

Prerequisites: MAT 161 or MAT 175

Corequisites: MAT 263A

This course introduces concepts of differentiation and integration and their applications to solving problems; the course is designed for students needing one semester of calculus. Topics include functions, graphing, differentiation, and integration with emphasis on applications drawn from business, economics, and biological and behavioral sciences. Upon completion, students should be able to demonstrate an understanding of the use of basic calculus and technology to solve problems and to analyze and communicate results. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. Graphing calculators will be used to investigate applications involving the above topics.*

MAT 263A Brief Calculus Lab (0-2-0-1)

Prerequisites: MAT 161 or MAT 175

Corequisites: MAT 263

This course is a laboratory for MAT 263. Emphasis is placed on experiences that enhance the materials presented in the class. Upon completion, students should be able to solve problems, apply critical thinking, work in teams, and communicate effectively. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MAT 271 Calculus I (3-2-0-4)

Prerequisites: MAT 175

Corequisites: None

This course covers in depth the differential calculus portion of a three-course calculus sequence. Topics include limits, continuity, derivatives, and integrals of algebraic and transcendental functions of one variable, with applications. Upon completion, students should be able to apply differentiation and integration techniques to algebraic and transcendental functions. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. Graphing calculators will be used to investigate applications involving the above topics. This course is also available through the Virtual Learning Community (VLC).*

MAT 272 Calculus II (3-2-0-4)

Prerequisites: MAT 271

Corequisites: None

This course provides a rigorous treatment of integration and is the second calculus course in a three-course sequence. Topics include applications of definite integrals, techniques of integration, indeterminate forms, improper integrals, infinite series, conic sections, parametric equations, polar coordinates, and differential equations. Upon completion, students should be able to use integration and approximation techniques to solve application problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. Graphing calculators will be used to investigate applications involving the above topics. This course is also available through the Virtual Learning Community (VLC).*

MAT 273 Calculus III (3-2-0-4)

Prerequisites: MAT 272

Corequisites: None

This course covers the calculus of several variables and is third calculus course in a three-course sequence. Topics include functions of several variables, partial derivatives, multiple integrals, solid analytical geometry, vector-valued functions, and line and surface integrals. Upon completion, students should be able to solve problems involving vectors and functions of several variables. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics. Graphing calculators will be used to investigate applications involving the above topics. This course is also available through the Virtual Learning Community (VLC).*

MAT 280 Linear Algebra (3-0-0-3)

Prerequisites: MAT 271

Corequisites: None

This course provides a study of linear algebra topics with emphasis on the development of both abstract concepts and applications. Topics include vectors, systems of equations, matrices, determinants, vector spaces, linear transformations in two or three dimensions, eigenvectors, eigenvalues, diagonalization and orthogonality. Upon completion, students should be able to demonstrate both an understanding of the theoretical concepts and appropriate use of linear algebra models to solve application problems. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

MAT 285 Differential Equations (3-0-0-3)

Prerequisites: MAT 272

Corequisites: None

This course provides an introduction to ordinary differential equations with an emphasis on applications. Topics include first-order, linear higher-order, and systems of differential equations; numerical methods; series solutions; eigenvalues and eigenvectors; Laplace transforms; and Fourier series. Upon completion, students should be able to use differential equations to model physical phenomena, solve the equations, and use the solutions to analyze the

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phenomena. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

MECHANICAL TECHNOLOGY

MEC 145 Mfg Materials I (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces a variety of manufacturing materials and common processing techniques. Emphasis is placed on the processing, testing, and application of materials such as wood, metals, plastics, ceramics, and composites. Upon completion, students should be able to demonstrate an understanding of fundamental engineering applications for a variety of materials, including their process capabilities and limitations.

MEC 161 Manufacturing Processes I (3-0-0-3)

Prerequisites: None

Corequisites: MEC 161A

This course provides the fundamental principles of value-added processing of materials into usable forms for the customer. Topics include material properties and traditional and non-traditional manufacturing processes. Upon completion, students should be able to specify appropriate manufacturing processing for common engineering materials.

MEC 161A Manufacturing Processes I Lab (0-3-0-1)

Prerequisites: None

Corequisites: MEC 161

This course is a laboratory for MEC 161. Emphasis is placed on experiences that enhance the materials presented in MEC 161. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in MEC 161.

MEC 180 Engineering Materials (2-3-0-3)

Prerequisites: MEC 145

Corequisites: None

This course introduces the physical and mechanical properties of materials. Topics include materials testing, pre and post-manufacturing processes, and material selection of ferrous and non-ferrous metals, plastics, composites, and non-conventional materials. Upon completion, students should be able to utilize basic material property tests and select appropriate materials for applications. *This course is also available through the Virtual Learning Community (VLC).*

MEC 210 Applied Mechanics (2-2-0-3)

Prerequisites: None

Corequisites: None

This course is a study of forces, stresses, and strains acting upon mechanical components. Topics include static equilibrium; normal, shear, and bending stresses; mathematical and graphical solution techniques; and the relationship between stress and strain. Upon completion, students should be able to demonstrate proficiency in analyzing the forces, stresses, and strains common to applications in the workplace.

MEC 245 Mfg Materials II (2-3-0-3)

Prerequisites: MEC 145

Corequisites: None

This course covers advanced materials and processing techniques used in modern manufacturing. Emphasis is placed on processing, testing, and application of materials such as polymers, ceramics, and coatings and nontraditional manufacturing processes. Upon completion, students should be able to demonstrate a comprehensive understanding of modern manufacturing processes, engineering materials, and production systems.

MEC 250 Statics & Strength of Materials (4-3-0-5)

Prerequisites: PHY 131 or PHY 151

Corequisites: None

This course covers the concepts and principles of statics and stress analysis. Topics include systems of forces on structures in equilibrium and analysis of stresses and strains on these components. Upon completion, students should be able to analyze forces and the results of stresses and strains on structural components.

MEC 265 Fluid Mechanics (2-2-0-3)

Prerequisites: PHY 131

Corequisites: None

This course covers the physical behavior of fluids and fluid systems. Topics include fluid statics and dynamics, laminar and turbulent flow, Bernoulli's Equation, components, applications, and other related topics. Upon completion, students should be able to apply fluid power principles to practical applications.

MEC 267 Thermal Systems (2-2-0-3)

Prerequisites: PHY 131 or PHY 151

Corequisites: None

This course introduces the fundamental laws of thermodynamics. Topics include work and energy, open and closed systems, and heat engines. Upon completion, students should be able to demonstrate a knowledge of the laws and principles that apply to thermal power. Additional topics covered are properties of steam, use of steam tables, specific heat and entropy changes of ideal gases, and vapor power cycles in Camot, Otto, and Rankine.

MEC 270 Machine Design (3-3-0-4)

Prerequisites: DFT 151, MEC 180

and MEC 250

or MEC 251 and MEC 252

Corequisites: None

This course covers the basic principles underlying design and selection of machine elements. Topics include stress analysis, selection of components, power transmission, and other design considerations. Upon completion, students should be able to identify and solve mechanical design problems by applying basic engineering principles. Other topics are design and application of machine components such as shafts, belt drives, bearings, chain drives, clutches, couplings, and gears.

MEC 275 Engineering Mechanisms (2-2-0-3)

Prerequisites: DFT 151 and PHY 131
or PHY151

Corequisites: None

This course covers plane motion and devices used to generate plane motion. Topics include analysis of displacement, velocity, acceleration, gears, cams, and other mechanical systems. Upon completion, students should be able to graphically and mathematically analyze a plane motion system. Other topics include analysis of velocity and acceleration of linkages using relative velocity and instant center methods; use of software to analyze mechanisms.

MEC 281 Electronic Mfg Processes (3-3-0-4)

Prerequisites: MEC 161

Corequisites: None

This course introduces electronic manufacturing processes. Topics include PCB manufacturing, artwork, clean room processing, environmental concerns, reliability, soldering, material issues, flexible circuits, connections, and electronic assembly. Upon completion, students should be able to demonstrate an understanding of basic electronic processing and be able to process simple electronic devices. Oral and written communications skills will be emphasized.

MEC 283 Introduction to CAM (2-3-0-3)

Prerequisites: MEC 112 and DFT 111

Corequisites: None

This course introduces the major concepts of a computer-aided manufacturing system. Topics including linking CAD to CAM, software, programming, and machine codes. Upon completion, students should be able to write a program to a simple part using a CAD input file. Oral and written communications skills will be emphasized.

MEDICAL ASSISTING

MED 110 Orientation to Medical Assisting

(1-0-0-0-1)

Prerequisites: Enrollment in the Medical Assisting Program or by departmental approval.

Corequisites: None

This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting.

MED 118 Medical Law and Ethics (2-0-0-0-2)

Prerequisites: None

Corequisites: None

This course covers legal relationships of physicians and patients, contractual agreements, professional liability, malpractice, medical practice acts, informed consent, and bioethical issues. Emphasis is placed on legal terms, professional attitudes, and the principles and the basic concepts of ethics and laws involved in providing medical services. Upon completion, students should be able to meet the legal and ethical responsibilities of a multi-skilled health professional. Guest speakers may be utilized to discuss current

medicolegal topics and role-play sessions may be used to reenact various medical court cases.

MED 121 Medical Terminology I (3-0-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces prefixes, suffixes, and word roots. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 122 Medical Terminology II (3-0-0-0-3)

Prerequisites: MED 121

Corequisites: None

This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders.

MED 130 Administrative Office Procedures I (1-2-0-0-2)

Prerequisites: Enrollment in the Medical Assisting Program, OST 136, MED 121.

Corequisites: None

This course provides an introduction to all medical office administrative procedures. Topics include appointment processing, written and oral communications, medical records, patient orientation, and safety. Upon completion, students should be able to perform basic administrative skills within the medical environment. Students will participate in office simulation projects, throughout the course, which are designed to reinforce applications skills.

MED 131 Administrative Office Procedures II (1-2-0-0-2)

Prerequisites: MED 130

Corequisites: None

This course is the second in a series and provides medical office procedures in both economic and management skills. Topics include physical plant maintenance, equipment and supplies, liability coverage, medical economics, and introductory insurance procedures. Upon completion, students should be able to manage the economics of the medical office and supervise personnel. Students will participate in office simulation projects, throughout the course, which are designed to reinforce applications skills.

MED 134 Medical Transcription (2-2-0-0-3)

Prerequisites: MED 121, OST 136

Corequisites: None

This course provides the basic knowledge, understanding, and skills required to complete medical reports, and transcribe medical dictation. Emphasis is placed on correct punctuation, capitalization, and spelling. Upon completion, students should be able to demonstrate competency in medical transcription. Additionally, students will demonstrate competency

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in transcribing generic and proprietary drug names as well as competency in computer application skills necessary for successful medical transcription.

MED 140 Exam Room Procedures I (3-4-0-0-5)

Prerequisites: Enrollment in the Medical Assisting Program

Corequisites: None

This course provides instruction in clinical examining room procedures. Topics include asepsis, infection control, assisting with exams and treatment, patient education, preparation and administration of medications, EKG's, vital signs, and medical emergencies. Upon completion, students should be able to perform competency based course topics. Students will demonstrate math competencies in algebraic computations necessary to successfully calculate drug dosages and determine equivalent doses among the household, apothecary, and metric systems.

MED 150 Laboratory Procedures I (3-4-0-0-5)

Prerequisites: Enrollment in the Medical Assisting Program

Corequisites: None

This course is designed to provide instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collection and processing specimens, performing selective tests, phlebotomy, screening and follow-up of test results, and OSHA/CLIA regulations. Upon completion, students should be able to perform basic lab tests/skills based on course topics. Students will demonstrate proficiency in the use of medical office laboratory equipment necessary to perform basic laboratory tests, and EKG's.

MED 230 Administrative Office Procedures III (1-2-0-0-2)

Prerequisites: MED 131

Corequisites: None

This course provides advanced medical office administrative procedures. Emphasis is placed on management skills including personnel supervision, practice management, public relations, and insurance coding. Upon completion, students should be able to exhibit advanced managerial medical assisting skills. Additional studies will be devoted to hands-on practice sessions in insurance coding and development of assigned sections of an office procedure manual.

MED 240 Exam Room Procedures II (3-4-0-0-5)

Prerequisites: MED 140

Corequisites: None

This course is designed to expand and build upon skills presented in MED 140. Emphasis is placed on advanced exam room procedures. Upon completion, students should be able to demonstrate enhanced competency in selected exam room procedures. Additional studies will concentrate on basic principles of diet therapy.

MED 250 Laboratory Procedures II (3-4-0-0-5)

Prerequisites: MED 150

Corequisites: None

This course is designed to expand and build on skills presented in MED 150. Emphasis is placed on increasing proficiency in laboratory skills used in the medical setting. Upon completion, students should be

able to demonstrate enhanced competency in selected medical laboratory procedures. Additional studies will concentrate on first aid and cardiopulmonary resuscitation (CPR).

MED 260 Clinical Externship (0-0-15-0-5)

Prerequisites: MED 118, MED 230, MED 240, MED 250, MED 272

Corequisites: MED 262, MED 264

This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competency in clinical and administrative skills necessary for comprehensive patient care, and strengthening professional and communication interactions. Upon completion, students should be able to function as an entry-level health care professional. *The clinical externship rotation will be condensed into an 8 week session, with medical facility staff supervising students assigned to their facility for 30 hours per week.*

MED 262 Clinical Perspectives (1-0-0-0-1)

Prerequisites: Enrollment in the Medical Assisting Program

Corequisites: MED 260, MED 264

This course is designed to explore personal and occupational responsibilities of the practicing medical assistant. Emphasis is placed on problems encountered during externships and development of problem solving skills. Upon completion, students should be able to act in a courteous and diplomatic manner when solving problems in the medical facility. Students will continue the development of assigned sections of a medical office procedure manual.

MED 264 Medical Assisting Overview (2-0-0-0-2)

Prerequisites: Enrollment in the Medical Assisting Program

Corequisites: MED 260, MED 262

This course provides an overview of the complete medical assisting curriculum. Emphasis is placed on all facets of medical assisting pertinent to administrative, laboratory, and clinical procedures performed in the medical environment. Upon completion, students should be prepared for the national certification examination for medical assistants. Students will participate in practice test sessions throughout the course that will culminate in a mock certification examination at the end of the course.

MED 270 Symptomatology (2-2-0-0-3)

Prerequisites: Enrollment in the Medical Assisting Program or enrollment in the Medical Transcription Program, MED 121 or OST 141.

Corequisites: None

This course covers the study of disease symptoms and the appropriate actions taken by medical assistants in a medical facility in relation to these symptoms. Emphasis is placed on interviewing skills and appropriate triage, preparing patients for procedures, and screening the test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions. Students will participate in class projects designed to meet the competencies of the course.

MED 272 Drug Therapy (3-0-0-3)

Prerequisites: Enrollment in the Medical Assisting Program, MED 140, MED 270, (or enrollment in the Medical Transcription Program, MED 270).

Corequisites: None

This course focuses on major drug groups, including their side effects, interactions, methods of administration, and proper documentation. Emphasis is placed on the theory of drug administration. Upon completion, students should be able to identify, spell, recognize side effects of and document the most commonly used medications in the physician's office. Students will research the 50 most commonly prescribed drugs according to guidelines set forth in the course.

MARKETING AND RETAILING

MKT 120 Principles of Marketing (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

MKT 220 Advertising and Sales Promotion (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, students should be able to demonstrate an understanding of the concepts covered through application.

(MAINTENANCE)

INDUSTRIAL SYSTEMS TECHNOLOGY

MNT 110 Intro to Maint Procedures (1-3-0-2)

Prerequisites: None

Corequisites: None

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

MNT 111 Maintenance Practices (2-2-0-3)

Prerequisites: None

Corequisites: None

This course provides in-depth theory and practical applications relating to predictive and preventive maintenance programs. Emphasis is placed on equipment failure, maintenance management software, and techniques such as vibration and infrared analysis. Upon completion, students should be able to demonstrate an understanding of modern analytical and

documentation methods. *This course is also available through the Virtual Learning Community (VLC).*

MNT 150 Basic Building Maintenance (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces the basic skills of building maintenance. Topics include basic carpentry and masonry skills including forming, framing, laying block to a line, repairing, and other related topics. Upon completion, students should be able to perform basic carpentry and masonry skills in a maintenance setting.

MNT 220 Rigging & Moving (1-3-0-2)

Prerequisites: None

Corequisites: None

This course covers the principles of safe rigging practices for handling, placing, installing, and moving heavy machinery and equipment. Topics include safety, weight and dimensional estimation, positioning of equipment slings, rollers, jacks, levers, dollies, ropes, chains, padding, and other related topics. Upon completion, students should be able to safely relocate and set up equipment using accepted rigging practices.

MNT 230 Pumps & Piping Systems (1-3-0-2)

Prerequisites: None

Corequisites: None

This course covers pump installation and maintenance and related valves and piping systems. Topics include various types of pump systems and their associated valves, piping requirements, and other related topics. Upon completion, students should be able to select and install pump and piping systems and demonstrate proper maintenance and troubleshooting procedures.

MNT 240 Industrial Equip Troubleshoot (1-3-0-2)

Prerequisites: None

Corequisites: None

This course covers the various service procedures, tools, instruments, and equipment necessary to analyze and repair typical industrial equipment. Emphasis is placed on electro-mechanical and fluid power equipment troubleshooting, calibration, and repair, including common techniques and procedures. Upon completion, students should be able to troubleshoot and repair industrial equipment.

(MASSAGE)

THERAPEUTIC MASSAGE

MTH 110 Fundamentals of Massage (6-12-0-10)

Prerequisites: None

Corequisites: BIO 163, MED 120, PSY 110

This course introduces concepts basic to the role of the massage therapist. Emphasis is placed on beginning theory and techniques of body work as well as skill in therapeutic touch. Upon completion of the course, the student should be able to apply basic practical massage therapy skills.

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MTH 120 Therapeutic Massage Applications (6-12-0-10)

Prerequisites: MTH 110

Corequisites: BIO 271, ENG 111, PSY 118

This course provides an expanded knowledge and skill base for the massage therapist. Emphasis is placed on selected therapeutic approaches throughout the lifespan. Upon completion, students should be able to perform entry level therapeutic massage on various populations.

MTH 125 Ethics of Massage (2-0-0-2)

Prerequisites: MTH 110

Corequisites: MTH 120

This course is designed to explore issues related to the practice of massage therapy. Emphasis is placed on ethical, legal, professional, and political issues. Upon completion, students should be able to discuss issues relating to the practice of massage therapy, client/therapist relationships as well as ethical issues.

MTH 210 Advanced Skills of Massage (4-12-0-8)

Prerequisites: MTH 110, MTH 120, MTH 125

Corequisites: BIO 155, ENG 114 or ENG 112

This course provides knowledge and skills in diverse body work modalities. Emphasis is placed on selected techniques such as Neuromuscular Therapy, Sports Massage, Soft Tissue Release, Spa Approaches, Oriental Therapies, and energy techniques. Upon completion, students should be able to perform basic skills in techniques covered.

MTH 220 Outcome-Based Massage (4-10-0-7)

Prerequisites: MTH 110, MTH 120, MTH 125, MTH 210

Corequisites: COE 111, BUS230

This course provides knowledge and skills in more complex body works modalities. Emphasis is placed on developing advanced skills in outcome-based Massage. Upon completion, students should be able to perform basic skills in techniques covered.

MUSIC

MUS 110 Music Appreciation (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

MUS 111 Fundamentals of Music (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is an introductory course for students with little or no music background. Emphasis is placed on music notation, rhythmic patterns, scales, key signatures, intervals, and chords. Upon completion, students should be able to demonstrate an

understanding of the rudiments of music. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a pre-major and/or elective course requirement.*

MUS 112 Introduction to Jazz (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the origins and musical components of jazz and the contributions of its major artists. Emphasis is placed on the development of discriminating listening habits, as well as the investigation of the styles and structural forms of the jazz idiom. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

MUS 113 American Music (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces various musical styles, influences, and composers of the United States from pre-Colonial times to the present. Emphasis is placed on the broad variety of music particular to American culture. Upon completion, students should be able to demonstrate skills in basic listening and understanding of American music. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

MUS 115 Orchestral Music (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers representational orchestral and chamber works from the Baroque period to the present. Emphasis is placed on the characteristics of important orchestral forms and styles. Upon completion, students should be able to demonstrate skills in listening to and analyzing orchestral music. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 121 Music Theory I (3-2-0-4)

Prerequisites: None

Corequisites: None

This course provides an in-depth introduction to melody, rhythm, and harmony. Emphasis is placed on fundamental melodic, rhythmic, and harmonic analysis, introduction to part writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 122 Music Theory II (3-2-0-4)

Prerequisites: MUS 121

Corequisites: None

This course is a continuation of studies begun in MUS 121. Emphasis is placed on advanced melodic,

rhythmic, and harmonic analysis and continued studies in part-writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 131 Chorus I (0-2-0-1)

Prerequisites: None

Corequisites: None

This course provides an opportunity to gain experience singing in a chorus. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 132 Chorus II (0-2-0-1)

Prerequisites: MUS 131

Corequisites: None

This course provides a continuation of studies begun in MUS 131. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 135 Jazz Ensemble I (0-2-0-1)

Prerequisites: None

Corequisites: None

This course provides an opportunity for those who play an appropriate instrument to gain experience playing in a jazz ensemble. Emphasis is placed on jazz ensemble techniques and the study and performance of a variety of styles of jazz literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 136 Jazz Ensemble II (0-2-0-1)

Prerequisites: MUS 135

Corequisites: None

This course is a continuation of MUS 135. Emphasis is placed on jazz ensemble techniques and the study and performance of a variety of styles and periods of jazz literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 141 Ensemble I (0-2-0-1)

Prerequisites: None

Corequisites: None

This course provides an opportunity to perform in any combination of instrumental, vocal, or keyboard groups of two or more. Emphasis is placed on the development of performance skills and the study of a variety of styles and periods of ensemble literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 142 Ensemble II (0-2-0-1)

Prerequisites: MUS 141

Corequisites: None

This course is a continuation of MUS 141. Emphasis is placed on the development of performance skills and the study of a variety of styles and periods of ensemble literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 151 Class Music I (0-2-0-1)

Prerequisites: None

Corequisites: None

This course provides group instruction in skills and techniques of the particular instrument or voice for those with little or no previous experience. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 152 Class Music II (0-2-0-1)

Prerequisites: MUS 151

Corequisites: None

This course is a continuation of MUS 151. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 161 Applied Music I (1-2-0-2)

Prerequisites: None

Corequisites: None

This course provides individual instruction in the skills and techniques of the particular instrument or voice. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. *This course has been*

Course Descriptions

approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

MUS 170 Business of Music (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic elements of the music business. Topics include copyright law, musical arrangements and abridgements, recording and songwriting contracts, agents and managers, performing rights organizations, and the musician's union. Upon completion, students should be able to demonstrate an understanding of the basic elements of the music business. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 175 Recording Techniques 1 (2-0-0-2)

Prerequisites: None

Corequisites: None

This course introduces the recording studio from an artistic and operational point of view. Emphasis is placed on audio consoles, microphones, multitrack recorders, and echo chambers. Upon completion, students should be able to demonstrate understanding of operation and function of recording equipment and its relationship to musician, sound engineer, and producer. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 210 History of Rock Music (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is a survey of Rock music from the early 1950's to the present. Emphasis is placed on musical groups, soloists, and styles related to the evolution of this idiom and on related historical and social events. Upon completion, students should be able to identify specific styles and to explain the influence of selected performers within their respective eras. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 212 American Musical Theatre (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the origins and development of the musical from Show Boat to the present. Emphasis is placed on the investigation of the structure of the musical and its components through listening and analysis. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 213 Opera and Musical Theatre (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the origins and development of opera and musical theatre from the works of Claudio

Monteverdi to the present. Emphasis is placed on how the structure and components of opera and musicals effect dramaturgy through listening examples and analysis. Upon completion, students should be able to demonstrate analytical and listening skills in understanding both opera and the musical. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.*

MUS 214 Electronic Music 1 (1-2-0-2)

Prerequisites: MUS 111

Corequisites: None

This course provides an opportunity to study and explore various electronic instruments and devices. Emphasis is placed on fundamental MIDI applications and implementation, features and application of sequences, sound modules, and digital keyboards. Upon completion, students should be able to demonstrate proficiency by creation of appropriate musical projects using the equipment and techniques covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 217 Elementary Conducting (1-2-0-2)

Prerequisites: MUS 111

Corequisites: None

This course introduces the basic patterns and skills for conducting instrumental and vocal groups. Emphasis is placed on conducting beat patterns, expressive gestures, fermatas, accents, tempos, and rehearsal techniques. Upon completion, students should be able to demonstrate the above skills by conducting vocal and/or instrumental groups. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 221 Music Theory III (3-2-0-4)

Prerequisites: MUS 122

Corequisites: None

This course is a continuation of MUS 122. Emphasis is placed on altered and chromatic harmony, common practice era compositional techniques and forms, and continued studies in part writing, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 222 Music Theory IV (3-2-0-4)

Prerequisites: MUS 221

Corequisites: None

This course is a continuation of studies begun in MUS 221. Emphasis is placed on continued study of common practice era compositional techniques and forms, 20th century practices, ear-training, and sight-singing. Upon completion, students should be able to demonstrate proficiency in the recognition and application of the above. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 231 Chorus III (0-2-0-1)

Prerequisites: MUS 132

Corequisites: None

This course is a continuation of MUS 132. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 232 Chorus IV (0-2-0-1)

Prerequisites: MUS 231

Corequisites: None

This course is a continuation of MUS 231. Emphasis is placed on vocal techniques and the study of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 235 Jazz Ensemble III (0-2-0-1)

Prerequisites: MUS 136

Corequisites: None

This course is a continuation of MUS 136. Emphasis is placed on jazz ensemble techniques and the study and performance of a variety of styles and periods of jazz literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 236 Jazz Ensemble IV (0-2-0-1)

Prerequisites: MUS 235

Corequisites: None

This course is a continuation of MUS 235. Emphasis is placed on jazz ensemble techniques and the study and performance of a variety of styles and periods of jazz literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 251 Class Music III (0-2-0-1)

Prerequisites: MUS 152

Corequisites: None

This course is a continuation of MUS 152. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 252 Class Music IV (0-2-0-1)

Prerequisites: MUS 251

Corequisites: None

This course is a continuation of MUS 251. Emphasis is placed on techniques and styles and the exploration and study of appropriate literature. Upon completion, students should be able to, demonstrate proficiency in the studied skills and repertoire through performance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 253 Big Band (0-2-0-1)

Prerequisites: None

Corequisites: None

This course includes the Big Band instrumentation of five saxes, four trumpets, four trombones, and four-piece rhythm section (bass, piano, drums, and guitar). Emphasis is placed on learning the repertoire specifically written for Big Band instrumentation. Upon completion, students should be able to demonstrate skills needed to participate in performance of Big Band music. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 265 Piano Pedagogy (0-2-0-1)

Prerequisites: None

Corequisites: None

This course introduces the basic methods and materials of piano instruction. Emphasis is placed on basic teaching techniques and piano literature appropriate for various skill levels. Upon completion, students should be able to identify and utilize appropriate teaching methods and materials for various levels of piano instruction. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 271 Music History I (3-0-0-3)

Prerequisites: MUS 122

Corequisites: None

This course is the first of a two-semester, in-depth study of music history. Emphasis is placed on the history and literature of music from Antiquity through the Baroque Period. Upon completion, students should be able to trace important musical developments and demonstrate an understanding of the composers' styles. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

MUS 272 Music History II (3-0-0-3)

Prerequisites: MUS 271

Corequisites: None

This course is the second of a two-semester, in-depth study of music history. Emphasis is placed on the history and literature of music from the Classical Period to the present. Upon completion, students should be able to trace important musical developments and demonstrate an understanding of the composers' styles. *This course has been approved to satisfy the Comprehensive*

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Articulation Agreement for transferability as a pre-major and/or elective course requirement.

MUS 280 Music for the El Classrm (3-0-0-3)

Prerequisites: MUS 110

Corequisites: None

This course covers the skills necessary for teaching music in the elementary school. Emphasis is placed on integrating music activities which are suitable for all ages of elementary students, including theory, performance, and conducting, into classroom activities. Upon completion, students should be able to utilize a variety of music activities in the elementary school classroom. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

NURSING ASSISTANT - See Also Nursing NUR

NAS 101 Nursing Assistant I (3-4-3-6)

Prerequisites: None

Corequisites: None

This course introduces basic nursing skills required to provide personal care for patients, residents, or clients in a health care setting. Topics include communications, safety, patients' rights, personal care, vital signs, elimination, nutrition, emergencies, rehabilitation, and mental health. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant I with the North Carolina Nurse Aide I Registry.

NAS 102 Nursing Assistant II (3-2-6-6)

Prerequisites: Must be listed on the NA I registry prior to registering for this class

Corequisites: None

This course provides training in selected advanced nursing assistant procedures. Emphasis is placed on sterile techniques, respiratory procedures, catheterizations, wound and trach care, irrigations, and ostomy care. Upon completion, students should be able to demonstrate skills necessary to qualify as a Nursing Assistant II with the North Carolina Board of Nursing.

NAS 107 Medication Aide (0-2-0-1)

Prerequisites: State approved NA I class and high school diploma or GED

Corequisites: None

This course will cover the six rights of medication administration for non-licensed personnel. Topics will include medication administration via the oral, topical and installation routes, medical asepsis, hand hygiene, terminology, and legal implications. Upon completion, students should be able to demonstrate skills necessary to qualify as a Medication Aide with the North Carolina Medication Aide Registry.

NETWORKING TECHNOLOGIES

NET 110 Networking Concepts (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces students to the networking field. Topics include network terminology and

protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.

NET 113 Home Automaton Systems (2-2-0-3)

Prerequisites: None

Corequisites: None

This course covers the design, installation, testing, troubleshooting, and customer service of a fully automated home. Emphasis is placed on a structured wiring system that integrates the home phone, TV, home theater, audio, video, computer network, lighting, security systems, and automation systems into a pre-wired, remote controlled system. Upon completion, students should be able to design, install, and maintain home automation systems.

NET 125 Networking Basics (1-4-0-3)

Prerequisites: None

Corequisites: None

This course introduces the networking field. Emphasis is placed on network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.

NET 126 Routing Basics (1-4-0-3)

Prerequisites: NET 125

Corequisites: None

This course focuses on initial router configuration, router software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Emphasis will be placed on the fundamentals of router configuration, managing router software, routing protocol, and access lists. Upon completion, students should have an understanding of routers and their role in WANs, router configuration, routing protocols, TCP/IP, troubleshooting, and ACLs.

NET 175 Wireless Technology (2-2-0-3)

Prerequisites: NET 110 or NET 125

Corequisites: None

This course introduces the student to wireless technology and interoperability with different communication protocols. Topics include Wireless Application Protocol (WAP), Wireless Mark-up language (WML), link manager, service discovery protocol, transport layer and frequency band. Upon completion, students should be able to discuss in written and oral form protocols and procedures required for different wireless applications.

NET 225 Routing & Switching I (1-4-0-3)

Prerequisites: NET 126

Corequisites: None

This course focuses on advanced IP addressing techniques, intermediate routing protocols, command-line interface configuration of switches, Ethernet switching, VLANs, STP, and VTP. Emphasis will be placed on application and demonstration of skills

acquired in pre-requisite courses. Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP.

NET 226 Routing & Switching II (1-4-0-3)

Prerequisites: NET 225

Corequisites: None

This course introduces WAN theory and design, WAN technology, PPP, Frame Relay, ISDN, and additional case studies. Topics include network congestion problems, TCP/IP transport and network layer protocols, advanced routing and switching configuration, ISDN protocols, PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems, identify ISDN protocols, and describe the Spanning Tree protocol.

NET 289 Networking Project (1-4-0-3)

Prerequisites: NOS 230

Corequisites: NET 226

This course provides an opportunity to complete a significant networking project from the design phase through implementation with minimal instructor support. Emphasis is placed on project definition, documentation, installation, testing, presentation, and training. Upon completion, students should be able to complete a project from the definition phase through implementation.

OPERATING SYSTEMS

NOS 110 Operating System Concepts (2-3-0-3)

Prerequisites: None

Corequisites: None

This course introduces students to a broad range of operating system concepts, including installation and maintenance. Emphasis is placed on operating system concepts, management, maintenance, and resources required. Upon completion of this course, students will have an understanding of OS concepts, installation, management, maintenance, using a variety of operating systems.

NOS 120 Linux/UNIX Single User (2-2-0-3)

Prerequisites: NOS 110

Corequisites: None

This course develops the necessary skills for students to develop both GUI and command line skills for using and customizing a Linux workstation. Topics include Linux file system and access permissions, GNOME Interface, VI editor, X Window System expression pattern matching, I/O redirection, network and printing utilities. Upon completion, students should be able to customize and use Linux systems for command line requirements and desktop productivity roles.

NOS 130 Windows Single User (2-2-0-3)

Prerequisites: NOS 110

Corequisites: None

This course introduces operating system concepts for single-user systems. Topics include hardware management, file and memory management, system configuration/optimization, and utilities. Upon completion, students should be able to perform operating

systems functions at the support level in a single-user environment.

NOS 230 Windows Admin I (2-2-0-3)

Prerequisites: NOS 130

Corequisites: None

This course covers the installation and administration of a Windows Server network operating system. Topics include managing and maintaining physical and logical devices, access to resources, the server environment, managing users, computers, and groups, and Managing/Implementing Disaster Recovery. Upon completion, students should be able to manage and maintain a Windows Server environment.

NURSING -See Also Nursing Assistant NAS

NUR 101 Practical Nursing I (7-6-6-11)

Prerequisites: Admission to Program

Corequisites: BIO 163, PSY 110, NUR 118

This course introduces concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, legal/ethical/professional issues, wellness/illness patterns, and basic nursing skills. Upon completion, students should be able to demonstrate beginning understanding of nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span.

NUR 102 Practical Nursing II (8-0-12-12)

Prerequisites: NUR 101, NUR 118, PSY 110,
and BIO 163

Corequisites: NUR 117, ENG 111

This course includes more advanced concepts as related to the practical nurse's caregiver and discipline-specific roles. Emphasis is placed on the nursing process, delegation, cost effectiveness, legal/ethical/professional issues, and wellness/illness patterns. Upon completion, students should be able to begin participating in the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. This course will include the essentials of maternity nursing with emphasis on safe and effective care for mothers, infants, and families.

NUR 103 Practical Nursing III (6-0-12-10)

Prerequisites: NUR 101, NUR 102, NUR 117,
BIO 163, PSY 110, NUR 118,
and ENG 111

Corequisites: None

This course focuses on use of nursing/related concepts by practical nurses as providers of care/ members of discipline in collaboration with health team members. Emphasis is placed on the nursing process, wellness/illness patterns, entry-level issues, accountability, advocacy, professional development, evolving technology, and changing health care delivery systems. Upon completion, students should be able to use the nursing process to promote/maintain/restore optimum health for diverse clients throughout the life span. *This is a diploma-level course.*

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NUR 115 Fundamentals of Nursing (2-3-6-5)

Prerequisites: None

Corequisites: BIO 168, ENG 111, PSY 150,
NUR 133

This course introduces concepts basic to beginning nursing practice. Emphasis is placed on the application of the nursing process to provide and manage care as a member of the discipline of nursing. Upon completion, students should be able to demonstrate beginning competence in caring for individuals with common alterations of health. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 117 Pharmacology (1-3-0-2)

Prerequisites: NUR 101, BIO 163, and PSY 110

Corequisites: NUR 102

This course introduces information concerning sources, effects, legalities, and the safe use of medications as therapeutic agents. Emphasis is placed on nursing responsibility, accountability, pharmacokinetics, routes of medication administration, contraindications and side effects regarding drug therapy. Upon completion, students should be able to compute dosages and administer medication safely.

NUR 118 Nutrition/Diet Therapy (2-0-0-2)

Prerequisites: Admission to Program

Corequisites: NUR 101

This course covers the six nutrient categories and provides an overview of diet recommendations for promotion and maintenance of health. Topics include the food pyramid recommendations for individuals across the life span, energy balance, and special dietary modifications for common alterations in health. Upon completion, students should be able to assist in completing nutritional assessments, analyzing diets, and reinforcing dietary adaptations to meet individual health needs.

NUR 125 Maternal-Child Nursing (5-3-6-8)

Prerequisites: NUR 133, NUR 135, NUR 115

Corequisites: SOC 210, NUR 188,

This course introduces nursing concepts related to the delivery of nursing care for the expanding family. Emphasis is placed on utilizing the nursing process as a framework for managing/providing nursing care to individuals and families along the wellness-illness continuum. Upon completion, students should be able to utilize the nursing process to deliver nursing care to mothers, infants, children, and families. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 133 Nursing Assessment (2-3-0-3)

Prerequisites: None

Corequisites: NUR 115, BIO 168, ENG 111

This course provides theory and application experiences for performing nursing assessment of individuals across the life span. Emphasis is placed on interviewing, and physical assessment techniques and documentation of findings appropriate for nursing. Upon completion, students should be able to complete a health history and perform a noninvasive physical assessment. Students will demonstrate competency in computer skills.

NUR 135 Adult Nursing I (5-3-9-9)

Prerequisites: NUR 115, NUR 133

Corequisites: BIO 169, PSY 281

This course introduces concepts related to the nursing care of individuals experiencing acute and chronic alterations in health. Emphasis is placed on utilizing the nursing process as a framework for providing and managing nursing care to individuals along the wellness-illness continuum. Upon completion, students should be able to apply the nursing process to individuals experiencing acute and chronic alterations in health. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 185 Mental Health Nursing (3-0-6-5)

Prerequisites: NUR 115, NUR 133, NUR 135,

Corequisites: BIO 275, ENG 112, NUR 188

This course includes concepts related to the nursing care of individuals experiencing alterations in social and psychological functioning. Emphasis is placed on utilizing the nursing process to provide and manage nursing care for individuals with common psychiatric disorders or mental health needs. Upon completion, students should be able to apply psychosocial theories in the nursing care of individuals with psychiatric/mental health needs. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 187 Transitions Practicum (0-0-6-2)

Prerequisites: ENG 111, PSY 150, PSY 241,

BIO 168, BIO 169

Corequisites: BIO 275, ENG 112, NUR 189

This course provides a clinical practice component designed to assist the licensed practical nurse to transition to the role of the associate degree nurse. Emphasis is placed on developing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, the students should be able to demonstrate competency in the delivery of nursing care for individuals with common alterations in health. Students will demonstrate competency in computer and pharmacology calculation skills.

NUR 188 Nursing in the Community (1-0-6-3)

Prerequisites: NUR 115, NUR 133, NUR 135

Corequisites: NUR 185, ENG 112, BIO 275

This course introduces concepts and practices of community-based nursing care across the life span. Topics include home care history, agency regulation/standards, nurse's roles, the interdisciplinary team, and the application of nursing care to the community setting. Upon completion, students should be able to provide nursing care, manage nursing care, and function as a member of the discipline in home health care. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 189 Nursing Transitions (1-3-0-2)

Prerequisites: ENG 111, PSY 150, PSY 241,

BIO 168, BIO 169

Corequisites: BIO 275, ENG 112, NUR 187

This course is designed to assist the licensed practical nurse in transition to the role of the associate degree nurse. Topics include the role of the registered nurse, nursing process, homeostasis, and validation of

selected nursing skills and physical assessment. Upon completion, students should be able to articulate into the ADN program at the level of the generic student. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 222 LPN to AD Nursing I (6-0-6-8)

Prerequisites: ENG 111, PSY 150, PSY 241, BIO 168, BIO 169, BIO 275, ENG 112, NUR 187, NUR 189

Corequisites: SOC 210

This course is designed to assist the licensed practical nurse in transition to the independent role of the associate degree nurse. Emphasis is placed on developing the nurse's role as provider of care, manager of care, and member of the discipline of nursing. Upon completion, students should be able to utilize the nursing process to deliver nursing care for a diverse group of individuals with alterations in health. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 224 LPN to AD Nursing II (6-0-6-8)

Prerequisites: ENG 111, PSY 150, PSY 241, BIO 168, BIO 169, BIO 275, ENG 112, NUR 187, NUR 189, NUR 222

Corequisites: HUM, NUR 233

This course is designed to increase the licensed practical nurse's knowledge and application of advanced medical/surgical concepts. Emphasis is placed on developing the nurse's role as provider of care, manager of care and member of discipline of nursing. Upon completion, students should be able to utilize the nursing process to deliver care for a diverse group of individuals with complex alterations in health. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 233 Leadership in Nursing (2-0-0-2)

Prerequisites: ENG 111, PSY 150, PSY 241, BIO 168, BIO 169, BIO 275, ENG 112, NUR 187, NUR 189, NUR 222

Corequisites: HUM, NUR 224

This course is designed to enhance nursing leadership and management skills in a variety of health care settings. Emphasis is placed on leadership styles, supervision, delegation, leadership and management theories, conflict resolution, change, and time management. Upon completion, students should be able to apply leadership and management skills in a variety of health care settings. Students will demonstrate competency in computer skills

NUR 235 Adult Nursing II (4-3-15-10)

Prerequisites: NUR 115, NUR 125, NUR 133, NUR 135, NUR 185, NUR 188

Corequisites: NUR 255

This course provides expanded concepts related to nursing care for individuals experiencing common complex alterations in health. Emphasis is placed on the nurse's role as a member of a multidisciplinary team and as a manager of care for a group of individuals. Upon completion, students should be able to provide comprehensive nursing care for groups of individuals with common complex alterations in

health. Students will demonstrate competency in computer and pharmacology calculations skills.

NUR 255 Professional Issues (3-0-0-3)

Prerequisites: NUR 115, NUR 125, NUR 133, NUR 135, NUR 188, NUR 185

Corequisites: NUR 235

This course explores basic concepts of practice in the management of patient care in a complex health care system. Emphasis is placed on professional, legal, ethical, and political issues and management concepts. Upon completion, students should be able to articulate professional and management concepts. Students will demonstrate competency in computer and pharmacology calculations skills.

OFFICE SYSTEMS TECHNOLOGY

OST 122 Office Computations (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces the keypad and the touch method using the electronic calculator. Topics include mathematical functions in business applications. Upon completion, students should be able to use the electronic calculator to solve a wide variety of problems commonly encountered in business.

OST 131 Keyboarding (1-2-0-2)

Prerequisites: None

Corequisites: None

This course covers basic keyboarding skills. Emphasis is placed on the touch system, correct techniques, and development of speed and accuracy. Upon completion, students should be able to key at an acceptable speed and accuracy level using the touch system and be keying at a range of 23-30 WPM.

OST 132 Keyboard Skill Building (1-2-0-2)

Prerequisites: OST 131

Corequisites: None

This course provides accuracy and speed-building drills. Emphasis is placed on diagnostic tests to identify accuracy and speed deficiencies followed by corrective drills. Upon completion, students should be able to keyboard rhythmically with greater accuracy and speed and be keying at a range of 29-40 WPM.

OST 134 Text Entry & Formatting (2-2-0-3)

Prerequisites: OST 131, OST 132

Corequisites: None

This course is designed to provide the skills needed to increase speed, improve accuracy, and format documents. Topics include letters, memos, tables, and business reports. Upon completion, students should be able to produce mailable documents and key timed writings at speeds commensurate with employability at a range of 34-45 WPM.

OST 135 Adv Text Entry & Formatting (3-2-0-4)

Prerequisites: OST 132 and OST 134

Corequisites: None

This course is designed to incorporate computer application skills in the generation of office documents. Emphasis is placed on the production of letters, manuscripts, business forms, tabulation, legal

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documents, and newsletters. Upon completion, students should be able to make independent decisions regarding planning, style, and method of presentation and keying at a range of 39-50 WPM.

OST 136 Word Processing (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces word processing concepts and applications. Topics include preparation of a variety of documents and mastery of specialized software functions. Upon completion, students should be able to work effectively in a computerized word processing environment.

OST 137 Office Software Applications (1-2-0-2)

Prerequisites: None

Corequisites: None

This course introduces the concepts and functions of software that meet the changing needs of the community. Emphasis is placed on the terminology and use of software through a hands on approach. Upon completion, students should be able to use software in a business environment.

OST 141 Medical Terms I Med Office (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course uses a language-structure approach to present the terminology and vocabulary that will be encountered in medical office settings. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in approximately one-half of the systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

OST 142 Medical Terms II Med Office (3-0-0-3)

Prerequisites: OST 141

Corequisites: None

This course is a continuation of OST 141 and continues the study, using a language-structure approach, of medical office terminology and vocabulary. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in the remaining systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

OST 148 Medical Coding Billing & Insurance (3-0-0-3)

Prerequisites: OST 141

Corequisites: None

This course introduces CPT and ICD coding as they apply to medical insurance and billing. Emphasis is placed on accuracy in coding, forms preparation, and posting. Upon completion, students should be able to describe the steps of the total billing cycle and explain the importance of accuracy.

OST 149 Medical Legal Issues (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the complex legal, moral, and ethical issues involved in providing health-care

services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

OST 155 Legal Terminology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the terminology appropriate to the legal profession. Topics include legal research, court systems, litigation, civil and criminal law, probate, real and personal property, contracts and leases, domestic relations, equity, and corporations. Upon completion, students should be able to spell, pronounce, define, and demonstrate an understanding of the use of these legal terms. *This course is a unique requirement of the Legal Office Systems Concentration in the Office Systems Technology program.*

OST 156 Legal Office Procedures (2-2-0-3)

Prerequisites: OST 134

Corequisites: None

This course covers legal office functions involved in the operation of a law office. Emphasis is placed on procedures in the law office involving the court system, legal research, litigation, probate, and real estate, personal injury, criminal, and civil law. Upon completion, students should be able to demonstrate a high level of competence in performing legal office duties. *This course is a unique requirement of the Legal Office Systems Concentration in the Office Systems Technology program.*

OST 164 Text Editing Applications (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.

OST 184 Records Management (1-2-0-2)

Prerequisites: CIS 110, OST 137

Corequisites: None

This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system.

OST 201 Medical Transcription I (3-2-0-4)

Prerequisites: BIO 163, OST 131, OST 136,

OST 141 or MED 121,

and OST 164

Corequisites: OST 203, MED 122 or OST 142

This course introduces dictating equipment and typical medical dictation. Emphasis is placed on efficient use of equipment, dictionaries, PDRs, and other reference materials. Upon completion, students should be able to efficiently operate dictating equipment and

to accurately transcribe a variety of medical documents in a specified time. *This course is intended for diploma programs.*

OST 202 Medical Transcription II (3-2-0-4)

Prerequisites: OST 201

Corequisites: None

This course provides additional practice in transcribing documents from various medical specialties. Emphasis is placed on increasing transcription speed and accuracy and understanding medical procedures and terminology. Upon completion, students should be able to accurately transcribe a variety of medical documents in a specified time. *This course is intended for diploma programs.*

OST 203 Fund of Med Doc (3-0-0-3)

Prerequisites: RED 090

Corequisites: MED 121 or OST 141

This course covers the information and procedures necessary for producing acceptable medical documentation. Topics include digital dictation systems; workplace security systems; the access, retrieval, and transport of medical documents and other transcribing techniques necessary for acceptable medical documentation. Upon completion, students should be able to process medical documents in a home-based or medical facility. *This course is intended for diploma programs.*

OST 233 Office Publications Design (2-2-0-3)

Prerequisites: OST 136

Corequisites: None

This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications.

OST 236 Adv Word/Information Processing (2-2-0-3)

Prerequisites: OST 136

Corequisites: None

This course develops proficiency in the utilization of advanced word/information processing functions. Topics include tables, graphics, macros, sorting, document assembly, merging, and newspaper and brochure columns. Upon completion, students should be able to produce a variety of complex business documents.

OST 241 Med Ofc Transcription I (1-2-0-2)

Prerequisites: BIO 163, OST 131,
OST 136, OST 142

Corequisites: None

This course introduces machine transcription techniques as applied to medical documents. Emphasis is placed on accurate transcription, proofreading, and use of reference materials as well as vocabulary building. Upon completion, students should be able to prepare accurate and usable transcripts of voice recordings in the covered specialties.

OST 243 Med Office Simulation (2-2-0-3)

Prerequisites: OST 142, OST 148

Corequisites: None

This course introduces medical systems used to process information in the automated office. Topics include traditional and electronic information resources, storing and retrieving information, and the billing cycle. Upon completion, students should be able to use the computer accurately to schedule, bill, update, and make corrections.

OST 247 CPT Coding in the Med Off (1-2-0-2)

Prerequisites: MED 122 or OST 142
and OST 148

Corequisites: None

This course provides in-depth coverage of procedural coding. Emphasis is placed on CPT and HCPCS rules for Medicare billing. Upon completion, students should be able to properly code procedures and services performed by physicians in ambulatory settings.

OST 248 Diagnostic Coding (1-2-0-2)

Prerequisites: MED 122 or OST 142
and OST 148

Corequisites: None

This course provides an in-depth study of diagnostic coding for the medical office. Emphasis is placed on ICD-9-CM codes used on superbills and other encounter forms. Upon completion, students should be able to apply the principles of diagnostic coding in the physician's office.

OST 252 Legal Transcription I (2-2-0-3)

Prerequisites: OST 155 and OST 134
or OST 136

Corequisites: None

This course provides experience in using the transcriber to produce legal correspondence, forms, and documents with mailable accuracy from recorded tapes. Emphasis is placed on operating the transcriber, developing listening skills to translate the audio into hard copy, and producing mailable documents. Upon completion, students should be able to transcribe legal forms and documents with reasonable accuracy. *This course is a unique concentration requirement in the Legal Office Systems concentration in the Office Systems Technology program.*

OST 284 Emerging Technologies (1-2-0-2)

Prerequisites: OST 136

Corequisites: OST 236

This course provides opportunities to explore emerging technologies. Emphasis is placed on identifying, researching, and presenting current technological topics for class consideration and discussion. Upon completion, students should be able to understand the importance of keeping abreast of technological changes that affect the office professional.

OST 286 Professional Development (3-0-0-3)

Prerequisites: OST 131, OST 136

Corequisites: None

This course covers the personal competencies and qualities needed to project a professional image in the office. Topics include interpersonal skills, health lifestyles, appearance, attitude, personal and professional growth, multicultural awareness, and

Course Descriptions

professional etiquette. Upon completion, students should be able to demonstrate these attributes in the classroom, office, and society.

OST 289 Office Systems Management (2-2-0-3)

Prerequisites: OST 134 or OST 136, OST 164

Corequisites: None

This course provides a capstone course for the office professional. Topics include administrative office procedures, imaging, communication techniques, ergonomics, and equipment utilization. Upon completion, students should be able to function proficiently in a changing office environment.

PARALEGAL - See Legal Education LEX

PHLEBOTOMY

PBT 100 Phlebotomy Technology (5-2-0-0-6)

Prerequisite: Enrollment in the Phlebotomy Certificate Program

Corequisites: PBT 101

This course provides instruction in the skills needed for the proper collection of blood and other specimens used for diagnostic testing. Emphasis is placed on ethics, legalities, medical terminology, safety and universal precautions, health care delivery systems, patient relations, anatomy and physiology, and specimen collection. Upon completion, students should be able to demonstrate competence in the theoretical comprehension of phlebotomy techniques. *This is a certificate-level course.*

PBT 101 Phlebotomy Practicum (0-0-9-0-3)

Prerequisite: Enrollment in the Phlebotomy Certificate Program

Corequisites: PBT 100

This course provides supervised experience in the performance of venipuncture and microcollection techniques in a clinical facility. Emphasis is placed on patient interaction and application of universal precautions, proper collection techniques, special procedures, specimen handling, and data management. Upon completion, students should be able to safely perform procedures necessary for specimen collections on patients in various healthcare settings. *This is a certificate-level course.*

PHYSICAL EDUCATION

PED 110 Fit and Well for Life (1-2-0-2)

Prerequisites: None

Corequisites: None

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health-related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 111 Physical Fitness I (0-3-0-1)

Prerequisites: None

Corequisites: None

This course provides an individualized approach to physical fitness utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 112 Physical Fitness II (0-3-0-1)

Prerequisites: PED III or instructor permission

Corequisites: None

This course is an intermediate-level fitness class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, students should be able to implement and evaluate an individualized physical fitness program. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 113 Aerobics I (0-3-0-1)

Prerequisites: None

Corequisites: None

This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and flexibility and on safety precautions. Upon completion, students should be able to select and implement a rhythmic aerobic exercise program. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 114 Aerobics II (0-3-0-1)

Prerequisites: PED 113

or instructor permission

Corequisites: None

This course provides a continuation of a program of cardiovascular fitness involving rhythmic exercise. Emphasis is placed on a wide variety of aerobic activities which include cardiovascular efficiency, strength, and flexibility. Upon completion, students should be able to participate in and design a rhythmic aerobic exercise routine. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 117 Weight Training I (0-3-0-1)

Prerequisites: None

Corequisites: None

This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, students should be able to establish and implement a personal weight training program. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 118 Weight Training II (0-3-0-1)

Prerequisites: PED 117

Corequisites: None

This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and

interests. Upon completion, students should be able to establish and implement an individualized advanced weight training program. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 119 Circuit Training (0-3-0-1)

Prerequisites: None

Corequisites: None

This course covers the skills necessary to participate in a developmental fitness program. Emphasis is placed on the circuit training method which involves a series of conditioning timed stations arranged for maximum benefit and variety. Upon completion, students should be able to understand and appreciate the role of circuit training as a means to develop fitness. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 122 Yoga I (0-2-0-1)

Prerequisites: None

Corequisites: None

This course introduces the basic discipline of yoga. Topics include proper breathing, relaxation techniques, and correct body positions. Upon completion, students should be able to demonstrate the procedure of yoga. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 123 Yoga II (0-2-0-1)

Prerequisites: PED 122

or instructor permission

Corequisites: None

This course introduces more detailed aspects of the discipline of yoga. Topics include breathing and physical postures, relaxation, and mental concentration. Upon completion, students should be able to demonstrate advanced procedures of yoga. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 128 Golf-Beginning (0-2-0-1)

Prerequisites: None

Corequisites: None

This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate a knowledge of the rules and etiquette of golf. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 129 Golf-Intermediate (0-2-0-1)

Prerequisites: PED 128 or instructor permission

Corequisites: None

This course covers the more advanced phases of golf. Emphasis is placed on refining the fundamental skills and learning more advanced phases of the games such as club selection, trouble shots, and course management. Upon completion, students should be able to demonstrate the knowledge and ability to play a recreational round of golf. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 130 Tennis-Beginning (0-2-0-1)

Prerequisites: None

Corequisites: None

This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 131 Tennis-Intermediate (0-2-0-1)

Prerequisites: PED 130 or instructor permission

Corequisites: None

This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals, learning advanced serves, and strokes and pace and strategies in singles and doubles play. Upon completion, students should be able to play competitive tennis. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 138 Archery (0-2-0-1)

Prerequisites: None

Corequisites: None This course introduces basic archery safety and skills. Topics include proper techniques of stance, bracing, drawing, and releasing as well as terminology and scoring. Upon completion, students should be able to participate safely in target archery. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 139 Bowling-Beginning (0-2-0-1)

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of bowling. Emphasis is placed on ball selection, grips, stance, and delivery along with rules and etiquette. Upon completion, students should be able to participate in recreational bowling. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 140 Bowling-Intermediate (0-2-0-1)

Prerequisites: PED 139 or instructor

Corequisites: None

This course covers more advanced bowling techniques. Emphasis is placed on refining basic skills and performing advanced shots, spins, pace, and strategy. Upon completion, students should be able to participate in competitive bowling. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 142 Lifetime Sports (0-2-0-1)

Prerequisites: None

Corequisites: None

This course is designed to give an overview of a variety of sports activities. Emphasis is placed on the skills and rules necessary to participate in a variety of lifetime sports. Upon completion, students should be able to demonstrate an awareness of the importance of participating in lifetime sports activities. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

Course Descriptions

PED 143 Volleyball-Beginning (0-2-0-1)

Prerequisites: None

Corequisites: None

This course covers the fundamentals of volleyball. Emphasis is placed on the basics of serving, passing, setting, spiking, blocking, and the rules and etiquette of volleyball. Upon completion, students should be able to participate in recreational volleyball. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 144 Volleyball-Intermediate (0-2-0-1)

Prerequisites: PED 143 or instructor permission

Corequisites: None

This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to participate in competitive volleyball. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 145 Basketball-Beginning (0-2-0-1)

Prerequisites: None

Corequisites: None

This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational basketball. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 172 Outdoor Living (1-2-0-2)

Prerequisites: None

Corequisites: None

This course is designed to acquaint the beginning camper with outdoor skills. Topics include camping techniques such as cooking and preserving food, safety, and setting up camp. Upon completion, students should be able to set up camp sites in field experiences using proper procedures. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 181 Snow Skiing-Beginning (0-2-0-1)

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of snow skiing. Topics include basic techniques, safety, and equipment involved in snow skiing. Upon completion, students should be able to ski a down slope, enter and exit a ski lift, and perform basic maneuvers on skis. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PED 182 Snow Skiing Intermediate (0-2-0-1)

Prerequisites: PED 181 or instructor permission

Corequisites: None

This course is designed to further develop snow skiing skills. Topics include selection and care of equipment, parallel skiing and turns, chfisties, advanced jumps, trail skiing, and slalom racing. Upon completion, students should be able to ski on varying terrains and snow conditions with control and safety. *This course has been approved for transfer through the Comprehensive Articulation Agreement.*

PHILOSOPHY

PHI 210 History of Philosophy (3-0-0-3)

Prerequisites: ENG 111, RED 090

Corequisites: None

This course introduces fundamental philosophical issues through an historical perspective. Emphasis is placed on such figures as Plato, Aristotle, Lao Tzu, Confucius, Augustine, Aquinas, Descartes, Locke, Kant, Wollstonecraft, Nietzsche, and Sartre. Upon completion, students should be able to identify and distinguish among the key positions of the philosophers studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

PHI 215 Philosophical Issues (3-0-0-3)

Prerequisites: ENG 111, RED 090

Corequisites: None

This course introduces fundamental issues in philosophy considering the views of classical and contemporary philosophers. Emphasis is placed on knowledge and belief, appearance and reality, determinism and free will, faith and reason, and justice and inequality. Upon completion, students should be able to identify, analyze, and critique the philosophical components of an issue. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.*

PHI 220 Western Philosophy 1 (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course covers Western intellectual and philosophic thought from the early Greeks through the medievalists. Emphasis is placed on such figures as the pre-Socratics, Plato, Aristotle, Epicurus, Epictetus, Augustine, Suarez, Anselm, and Aquinas. Upon completion, students should be able to trace the development of leading ideas regarding reality, knowledge, reason, and faith. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

PHI 221 Western Philosophy II (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course covers Western intellectual and philosophic thought from post-medievalists through recent thinkers. Emphasis is placed on such figures as Descartes, Spinoza, Leibnitz, Locke, Berkeley, Hume, Kant, Hegel, Marx, Mill, and representatives of pragmatism, logical positivism, and existentialism. Upon completion, students should be able to trace the development of leading ideas concerning knowledge, reality, science, society, and the limits of reason. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/ fine arts.*

PHI 230 Introduction to Logic (3-0-0-3)

Prerequisites: ENG 111, RED 090

Corequisites: None

This course introduces basic concepts and techniques for distinguishing between good and bad reasoning. Emphasis is placed on deduction, induction, validity, soundness, syllogisms, truth functions, predicate logic, analogical inference, common fallacies, and scientific methods. Upon completion, students should be able to analyze arguments, distinguish between deductive and inductive arguments, test validity, and appraise inductive reasoning. *This course has been approved to satisfy the Comprehensive Articulation general education core requirement in humanities/fine arts.*

PHI 240 Introduction to Ethics (3-0-0-3)

Prerequisites: ENG 111, RED 090

Corequisites: None

This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

PHI 250 Philosophy of Science (3-0-0-3)

Prerequisites: ENG 111, MAT 161

Corequisites: None

This course introduces the concepts of empirical observations and laws and their role in scientific explanation, prediction, and theory formation. Topics include the relationship between the philosophy of science and inductive/deductive logic, analytic philosophy, logical empiricism, and explanatory paradigms. Upon completion, students should be able to describe the development and role of scientific explanation, prediction, theory formation, and explanatory paradigms in the natural and social sciences. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PHYSICAL SCIENCE

PHS 110 Survey of Phys Science (3-2-0-4)

Prerequisites: MAT 070 and RED 090

Corequisites: None

This course introduces the physical environment with emphasis on the laws and physical concepts that impact the world and universe. Topics include astronomy, geology, meteorology, general chemistry, and general physics. Upon completion, students should be able to describe the forces and composition of the earth and universe. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PHS 130 Earth Science (3-2-0-4)

Prerequisites: MAT 070 AND RED 090

Corequisites: None

This course is a survey of the forces that impact the earth. Topics include geology, oceanography, and meteorology. Upon completion, students should be able to explain and identify the forces within, on, and around the earth as they influence the earth's dynamics. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PHS 140 Weather and Climate (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the nature, origin, processes, and dynamics of the earth's atmospheric environment. Topics include general weather patterns, climate, and ecological influences on the atmosphere. Upon completion, students should be able to demonstrate an understanding of weather, formation, precipitation, storm patterns, and processes of atmospheric pollution. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PHYSICS

PHY 110 Conceptual Physics (3-0-0-3)

Prerequisites: RED 090 and MAT 070

Corequisites: PHY 110A

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

PHY 110A Conceptual Physics Lab (0-2-0-1)

Prerequisites: None

Corequisites: PHY 110

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

PHY 121 Applied Physics I (3-2-0-4)

Prerequisites: None

Corequisites: None

This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Topics include systems of units, problem-solving methods, graphical analyzes, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter.

Course Descriptions

Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

PHY 122 Applied Physics II (3-2-0-4)

Prerequisites: None

Corequisites: None

This algebra-based course introduces fundamental physical concepts as applied to industrial and service technology fields. Emphasis is placed on systems of units, problem-solving methods, graphical analysis, static electricity, AC and DC circuits, magnetism, transformers, AC and DC motors, and generators. Upon completion, students should be able to demonstrate an understanding of the principles studied as applied in industrial and service fields.

PHY 131 Physics-Mechanics (3-2-0-4)

Prerequisites: MAT 121, MAT 161,
MAT 171, or MAT 175

Corequisites: None

This algebra/trigonometry-based course introduces fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, vectors, motion, forces, Newton's laws of motion, work, energy, power, momentum, and properties of matter. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 132 Physics-Elec & Magnetism (3-2-0-4)

Prerequisites: PHY 131

Corequisites: None

This algebra/trigonometry-based course is a study of fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, waves, electricity, magnetism, circuits, transformers, motors, and generators. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 133 Physics-Sound & Light (3-2-0-4)

Prerequisites: PHY 131

Corequisites: None

This algebra/trigonometry-based course is a study of fundamental physical concepts as applied to engineering technology fields. Topics include systems of units, problem-solving methods, graphical analysis, wave motion, sound, light, and modern physics. Upon completion, students should be able to apply the principles studied to applications in engineering technology fields.

PHY 140 Physics-Mech Structures (3-2-0-4)

Prerequisites: PHY 131

Corequisites: None

This algebra/trigonometry-based course introduces the analysis of mechanical structures. Topics include equilibrium of two- and three-dimensional forces, centroids, center of gravity, and the analysis of trusses and frames. Upon completion, students should be able to analyze typical structural systems and calculate internal and external forces on structural members.

PHY 141 Fiber Optics (3-2-0-4)

Prerequisites: PHY 131

Corequisites: None

This course provides a fundamental understanding of physical principles related to fiber optic systems. Topics include the nature of light, optical fibers, detectors, modulation formats, system design, physical optics, and optical communication. Upon completion, students should be able to demonstrate an understanding of the fundamental principles studied as they relate to practical applications of fiber optic systems.

PHY 151 College Physics I (3-2-0-4)

Prerequisites: MAT 161, MAT 171, or MAT175

Corequisites: None

This course uses algebra-and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vectors, linear kinematics and dynamics, energy, power, momentum, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

PHY 152 College Physics II (3-2-0-4)

Prerequisites: PHY 151

Corequisites: None

This course uses algebra-and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

PHY 153 Modern Topics in Physics (3-2-0-4)

Prerequisites: PHY 151

Corequisites: None

This course uses algebra-and trigonometry-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include atomic structure, nuclear processes, natural and artificial radioactivity, basic quantum theory, and special relativity. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.

PHY 251 General Physics I (3-3-0-4)

Prerequisites: MAT 271

Corequisites: MAT 272

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include units and measurement, vector operations, linear kinematics

and dynamics, energy, power, momentum, rotational mechanics, periodic motion, fluid mechanics, and heat. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

PHY 252 General Physics II (3-3-0-4)

Prerequisites: MAT 272 and PHY 251

Corequisites: None

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include electrostatic forces, electric fields, electric potentials, direct-current circuits, magnetostatic forces, magnetic fields, electromagnetic induction, alternating-current circuits, and light. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.*

PHY 253 Modern Physics (3-3-0-4)

Prerequisites: PHY 251

Corequisites: None

This course uses calculus-based mathematical models to introduce the fundamental concepts that describe the physical world. Topics include atomic structure, nuclear processes, natural and artificial radioactivity, quantum theory, and special relativity. Upon completion, students should be able to demonstrate an understanding of the principles involved and display analytical problem-solving ability for the topics covered.

PLASTICS

PLA 120 Injection Molding (2-3-0-3)

Prerequisites: None

Corequisites: None

This course provides theory and processing experience with the injection molding process. Topics include machine type, molds, controls, machine-polymer part relationship, molding factors, troubleshooting, and molding problems/ solutions. Upon completion, students should be able to demonstrate an understanding of machine setup and operation and be able to optimize common injection molding machines. Additional topics include introduction to polymer chemistry, sources of plastics, forms of plastics, thermoplastics, and thermosetting materials; oral and written communications skills will be emphasized.

PLA 162 Plastics Manuf Processes (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers manufacturing processes including machining, sawing, routing, milling, drilling, tapping, turning, thermoforming, molding, extrusion, laminating, reinforcing, expansion, casting, coating,

assembly, and finishing. Emphasis is placed on the process and equipment requirements, special operational concerns, setup, operation, tooling, capability limitations, maintenance, and safety. Upon completion, students should be able to select the correct process for the material required and discuss machine operation, setup, tooling, safety, and scrap recycling. Oral and written communications skills will be emphasized.

PLA 230 Adv Plastics Manufacturing (3-3-0-4)

Prerequisites: PLA 120 and PLA 162

Corequisites: None

This course covers advanced plastics manufacturing processes. Topics include hands-on experience, material selection, manufacturing cost, process optimization, troubleshooting, and project management. Upon completion, students should be able to understand, perform, and troubleshoot advanced processes in a manufacturing environment. Oral and written communications skills will be emphasized.

POLITICAL SCIENCE

POL 110 Intro Political Science (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces basic political concepts used by governments and addresses a wide range of political issues. Topics include political theory, ideologies, legitimacy, and sovereignty in democratic and non-democratic systems. Upon completion, students should be able to discuss a variety of issues inherent in all political systems and draw logical conclusions in evaluating these systems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral sciences.*

POL 120 American Government (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a study of the origins, development, structure, and functions of American national government. Topics include the constitutional framework, federalism, the three branches of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/ behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

POL 130 State & Local Government (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course includes state and local political institutions and practices in the context of American federalism. Emphasis is placed on procedural and policy differences as well as political issues in state, regional, and local governments of North Carolina. Upon completion, students should be able to identify and discuss various problems associated with

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intergovernmental politics and their effect on the community and the individual. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

POL 210 Comparative Government (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides a cross-national perspective on the government and politics of contemporary nations such as Great Britain, France, Germany, and Russia. Topics include each country's historical uniqueness, key institutions, attitudes and ideologies, patterns of interaction, and current political problems. Upon completion, students should be able to identify and compare various nations' governmental structures, processes, ideologies, and capacity to resolve major problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences.*

POL 220 International Relations (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences.*

PRE-ENGINEERING - See EGR

PSYCHOLOGY

PSY 101 Applied Psychology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the basic principles of psychology as they apply to daily life. Topics include perception, emotions, motivation, adjustment, behavior management, communication, and related topics that promote growth and development on the job and in one's personal life. Upon completion, students should be able to apply the principles learned in this class to everyday living. *This course is intended for diploma programs.*

PSY 102 Human Relations (2-0-0-2)

Prerequisites: None

Corequisites: None

This course covers the skills necessary to handle human relationships effectively. Topics include self-understanding, interpersonal communication, group dynamics, leadership skills, diversity, time and stress management, and conflict resolution with emphasis on work relationships. Upon completion, students should be able to demonstrate improved personal and interpersonal effectiveness. *This course is intended for diploma programs.*

PSY 110 Life Span Development (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study.

PSY 118 Interpersonal Psychology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/leadership styles, effective problem solving, and cultural diversity as they apply to personal and work environments. Upon completion, students should be able to demonstrate an understanding of these principles of psychology as they apply to personal and professional development.

PSY 135 Group Processes (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an examination of group dynamics and structure. Topics include team building, interpersonal communication, leadership, decision making, and problem solving. Upon completion, students should be able to demonstrate the knowledge and skills necessary for effective group participation.

PSY 150 General Psychology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides an overview of the scientific study of human behavior. Topics include history, methodology, biopsychology, sensation, perception, learning, motivation, cognition, abnormal behavior, personality theory, social psychology, and other relevant topics. Upon completion, students should be able to demonstrate a basic knowledge of the science of psychology. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

PSY 183 Psychology of Addiction (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers historical and theoretical perspectives on addictive behavior and the genetic, familial, and sociocultural influences on addiction. Topics include addictions to eating, gambling, alcohol, drugs, relationships, work, and sex. Upon completion, students should be able to demonstrate a knowledge of the theories of addiction and the factors underlying addictive behaviors.

PSY 211 Psychology of Adjustment (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course introduces the study of the adjustment process focusing on contemporary challenges

individuals must deal with in everyday life. Topics include theories of behavior, career choices, self-understanding, coping mechanisms, human relationships, intimacy, sociocultural factors influencing healthy personal adjustment, and other related topics. Upon completion, students should be able to demonstrate an awareness of the processes of adjustment. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PSY 231 Forensic Psychology (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course introduces students to concepts which unite psychology and the legal system. Topics include defining competency, insanity, involuntary commitment as well as introducing forensic assessment techniques, such as interviewing process, specialized assessments, and collecting collateral information. Upon completion, students should be able to demonstrate knowledge in areas of forensic psychology: risk assessment, criminal competencies, insanity, psychopathology, and mentally disordered offenders. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PSY 237 Social Psychology (3-0-0-3)

Prerequisites: PSY 150 or SOC 210

Corequisites: None

This course introduces the study of individual behavior within social contexts. Topics include affiliation, attitude formation and change, conformity, altruism, aggression, attribution, interpersonal attraction, and group behavior. Upon completion, students should be able to demonstrate an understanding of the basic principles of social influences on behavior. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

PSY 239 Psychology of Personality (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course covers major personality theories and personality research methods. Topics include psychoanalytic, behavioristic, social learning, cognitive, humanistic, and trait theories including supporting research. Upon completion, students should be able to compare and contrast traditional and contemporary approaches to the understanding of individual differences in human behavior. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

PSY 241 Developmental Psych (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course is a study of human growth and development. Emphasis is placed on major theories and perspectives as they relate to the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be

able to demonstrate knowledge of development across the life span. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

PSY 243 Child Psychology (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course provides an overview of physical, cognitive, and psychosocial development from conception through adolescence. Topics include theories and research, interaction of biological and environmental factors, language development, learning and cognitive processes, social relations, and moral development. Upon completion, students should be able to identify typical and atypical childhood behavior patterns as well as appropriate strategies for interacting with children. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PSY 244 Child Development I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an introduction to the study of child development and examines the growth and development of children from conception through early childhood. Topics include historical and theoretical perspectives, terminology, research and observation techniques as well as physical, cognitive, and psychosocial growth and change. Upon completion, students should be able to demonstrate an understanding of the early stages of child development.

PSY 245 Child Development II (3-0-0-3)

Prerequisites: None

Corequisites: None

This course examines the growth and development of children during early and middle childhood. Emphasis is placed on factors influencing physical, cognitive, and psychosocial growth and change. Upon completion, students should be able to demonstrate an understanding of early and middle child development.

PSY 246 Adolescent Psychology (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course provides an overview of the behavior patterns, life changes, and social issues that accompany the developmental stage of adolescence. Topics include developmental theories; physical, cognitive and psychosocial growth; transitions to young adulthood; and sociocultural factors that influence adolescent roles in home, school and community. Upon completion, students should be able to identify typical and atypical adolescent behavior patterns as well as appropriate strategies for interacting with adolescents. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

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PSY 249 Psychology of Aging (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course covers the particular needs and behaviors of the maturing adult. Emphasis is placed on psychosocial processes; biological and intellectual aspects of aging; adjustments to retirement, dying, bereavement; and the stereotypes and misconceptions concerning the elderly. Upon completion, students should be able to show an understanding of the psychological factors related to the aging process. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PSY 259 Human Sexuality (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course provides the biological, psychological, and sociocultural aspects of human sexuality and related research. Topics include reproductive biology, sexual and psychosexual development, sexual orientation, contraception, sexually transmitted diseases, sexual disorders, theories of sexuality, and related issues. Upon completion, students should be able to demonstrate an overall knowledge and understanding of human sexuality. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PSY 275 Health Psychology (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course covers the biopsychosocial dynamics of stress and the maintenance of good health. Topics include enhancing health and well-being, stress management, lifestyle choices and attitudes, the mind-body relationship, nutrition, exercise, and fitness. Upon completion, students should be able to demonstrate an understanding of the psychological factors related to health and well-being. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

PSY 281 Abnormal Psychology (3-0-0-3)

Prerequisites: PSY 150

Corequisites: None

This course provides an examination of the various psychological disorders, as well as theoretical, clinical, and experimental perspectives of the study of psychopathology. Emphasis is placed on terminology, classification, etiology, assessment, and treatment of the major disorders. Upon completion, students should be able to distinguish between normal and abnormal behavior patterns as well as demonstrate knowledge of etiology, symptoms, and therapeutic techniques. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

PSY 285 Psychological Statistics (3-0-0-3)

Prerequisites: PSY 150, MAT 161

Corequisites: None

This course introduces the study of descriptive and inferential statistics and their use in psychological research. Topics include measures of central tendency, variability and correlation, probability, sampling, hypothesis testing, and analysis of variance. Upon completion, students should be able to use statistical methods in the analysis of psychological data.

PSY 292 Selected Topics in Psychology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

PSY 293 Selected Topics in Psychology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an opportunity to explore areas of current interest in specific program or discipline areas. Emphasis is placed on subject matter appropriate to the program or discipline. Upon completion, students should be able to demonstrate an understanding of the specific area of study.

READING

RED 070 Essential Reading Skills (3-2-0-4)

Prerequisites: Appropriate placement test scores

Corequisites: None

This course is designed to strengthen reading skills. Emphasis is placed on basic word attack skills, vocabulary, transitional words, paragraph organization, basic comprehension skills, and learning strategies. Upon completion, students should be able to demonstrate competence in the skills required for RED 080. This course does not satisfy the developmental reading prerequisite for ENG 111 or ENG 111A.

RED 080 Intro to College Reading (3-2-0-4)

Prerequisites: Appropriate placement test scores

Corequisites: None

This course introduces effective reading and inferential thinking skills in preparation for RED 090. Emphasis is placed on vocabulary, comprehension, and reading strategies. Upon completion, students should be able to determine main ideas and supporting details, recognize basic patterns of organization, draw conclusions, and understand vocabulary in context. *This course does not satisfy the developmental reading prerequisite for ENG 111 or ENG 111A.*

RED 090 Improved College Reading (3-2-0-4)

Prerequisites: RED 080

or appropriate placement test score

Corequisites: None

This course is designed to improve reading and critical thinking skills. Topics include vocabulary enhancement; extracting implied meaning; analyzing author's purpose, tone, and style; and drawing

conclusions and responding to written material. Upon completion, students should be able to comprehend and analyze college-level reading material. *This course satisfies the developmental reading prerequisite for ENG 111 or ENG 111A.*

RED 111 Crit Reading for College (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is designed to enhance critical reading skills. Topics include vocabulary enrichment, reading flexibility, metacognitive strategies, and advanced comprehension skills, including analysis and evaluation. Upon completion, students should be able to demonstrate comprehension and analysis and respond effectively to material across disciplines.

RELIGION

REL 110 World Religions (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the world's major religious traditions. Topics include Primal religions, Hinduism, Buddhism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. *This course is also available through the Virtual Learning Community (VLC).*

REL 111 Eastern Religions (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the major Asian religious traditions. Topics include Hinduism, Buddhism, Taoism, Confucianism, and Shinto. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

REL 112 Western Religions (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the major western religious traditions. Topics include Zoroastrianism, Islam, Judaism, and Christianity. Upon completion, students should be able to identify the origins, history, beliefs, and practices of the religions studied. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

REL 211 Intro to Old Testament (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a survey of the literature of the Hebrews with readings from the law, prophets, and other writings. Emphasis is placed on the use of literary, historical, archeological, and cultural analysis. Upon completion, students should be able to use the tools of critical analysis to read and understand Old Testament literature. *This course has been approved*

to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.

REL 212 Intro to New Testament (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is a survey of the literature of first century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

REL 221 Religion in America (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course is an examination of religious beliefs and practice in the United States. Emphasis is placed on mainstream religious traditions and non-traditional religious movements from the Colonial period to the present. Upon completion, students should be able to recognize and appreciate the diversity of religious traditions in America. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SCIENCE

SCI 090 Skills for the Sciences (2-2-0-3)

Prerequisites: None

Corequisites: MAT 060 and RED 090 or departmental approval or appropriate test scores

This course is designed to provide fundamental skills necessary for entry into college-level science courses. Topics include scientific vocabulary, measurement, scientific notation, the scientific method for solving problems, collaborative skills, and applications to various areas of science. Upon completion, students should be able to demonstrate a readiness for college-level science courses.

SCI 110 Principles of Science (3-2-0-4)

Prerequisites: None

Corequisites: None

This course introduces basic principles of chemistry, physics, and biology. Emphasis is placed on chemical reactions, energy forms, and ecological studies. Upon completion, students should be able to demonstrate mastery of the scientific method of thought and a basic understanding of chemistry, physics and biology.

SECURITY TECHNOLOGIES

SEC 110 Security Concepts (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces the concepts and issues related to securing information systems and the

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development of policies to implement information security controls. Topics include the historical view of networking and security, security issues, trends, security resources, and the role of policy, people, and processes in information security. Upon completion, students should be able to identify information security risks, create an information security policy, and identify processes to implement and enforce policy.

SEC 150 Secure Communications (2-2-0-3)

Prerequisites: SEC 110 and NET 110 or NET 125

Corequisites: None

This course provides an overview of current technologies used to provide secure transport of information across networks. Topics include data integrity through encryption, Virtual Private Networks, SSL, SSH, and IPsec. Upon completion, students should be able to implement secure data transmission technologies.

SEC 160 Secure Admin I (2-2-0-3)

Prerequisites: SEC 110 and NET 110 or NET 125

Corequisites: None

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion, students should be able to identify normal network traffic using network analysis tools and design basic security defenses.

SEC 210 Intrusion Detection (2-2-0-3)

Prerequisites: SEC 150, SEC 160

Corequisites: None

This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solution for networks and host based systems.

SEC 220 Defense-In-Depth (2-2-0-3)

Prerequisites: None

Corequisites: SEC 150, SEC 160

This course introduces students to the concepts of defense in-depth, a security industry best practice. Topics include firewalls, backup systems, redundant systems, disaster recovery, and incident handling. Upon completion, students should be able to plan effective information security defenses, backup systems, and disaster recovery procedures. *This course is restricted to the Information Systems Security, the Information Systems Security/Operating Systems, and the Information Systems Security/Security Hardware curriculums.*

SEC 289 Security Capstone Project (1-4-0-3)

Prerequisites: SEC 210, SEC 220

Corequisites: None

This course provides the student the opportunity to put into practice all the skills learned to this point. Emphasis is placed on security policy, process planning, procedure definition, business continuity, and systems security architecture. Upon completion, students should be able to design and implement comprehensive information security architecture from the

planning and design phase through implementation.

This course is restricted to the Information Systems Security, the Information Systems Security/Operating Systems, and the Information Systems Security/Security Hardware curriculums.

SOCIOLOGY

SOC 100 Concepts in Sociology (3-0-0-3)

Prerequisites: None

Corequisites: None

This course examines the basic concepts of sociology from the perspective of the individual as a member of society. Topics include an understanding of society, culture, collective behavior, community life, social institutions, social change, and the effect of social life on human behavior. Upon completion, students should be able to demonstrate knowledge of the impact of social interaction on institutions, groups, and individuals. *This course is intended for certificate and diploma programs.*

SOC 103 Family Living (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces various aspects of the contemporary American family and related intimate lifestyles. Topics include courtship, mate selection, marriage, parenting, sexuality, and family relationships. Upon completion, students should be able to identify practical issues and decisions relating to marriage and similar intimate relationships. *This course is intended for certificate and diploma programs.*

SOC 105 Social Relationships (3-0-0-3)

Prerequisites: None

Corequisites: None

This course is designed to study social relations and human behavior in all aspects of society. Emphasis is placed on the individual in the family, educational setting, and workplace. Upon completion, students should be able to apply knowledge about human behavior to improve inter-personal and job effectiveness. *This course is intended for certificate and diploma programs.*

SOC 210 Introduction to Sociology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

SOC 213 Sociology of the Family (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

SOC 215 Group Processes (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces group processes and dynamics. Emphasis is placed on small group experiences, roles and relationships within groups, communication, cooperation and conflict resolution, and managing diversity within and among groups. Upon completion, students should be able to demonstrate the knowledge and skills essential to analyze group interaction and to work effectively in a group context. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SOC 220 Social Problems (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools, workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

SOC 225 Social Diversity (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides a comparison of diverse roles, interests, opportunities, contributions, and experiences in social life. Topics include race, ethnicity, gender, sexual orientation, class, and religion. Upon completion, students should be able to analyze how cultural and ethnic differences evolve and how they affect personality development, values, and tolerance. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences. This course is also available through the Virtual Learning Community (VLC).*

SOC 230 Race and Ethnic Relations (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course includes an examination of the various aspects of race and ethnicity and how these lead to different experiences, opportunities, problems, and contributions. Topics include prejudice, discrimination, perceptions, myths, stereotypes, and intergroup relationships. Upon completion, students should be able to identify and analyze relationships among racial and ethnic groups within the larger society. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

SOC 240 Social Psychology (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in social/behavioral sciences.*

SOC 242 Sociology of Deviance (3-0-0-3)

Prerequisites: RED 090

Corequisites: None

This course provides an overview of deviant behavior and the processes involved in its definition, causation, prevention, control and treatment. Topics include theories of causation, social control, delinquency, victimization, criminality, the criminal justice system, punishment, rehabilitation, and restitution. Upon completion, students should be able to identify and analyze issues surrounding the nature and development of social responses to deviance. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SPANISH

SPA 110 Introduction to Spanish (2-0-0-2)

Prerequisites: RED 090

Corequisites: None

This course provides an introduction to understanding, speaking, reading, and writing Spanish. Emphasis is placed on pronunciation, parts of speech, communicative phrases, culture, and skills for language acquisition. Upon completion, students should be able to identify and apply basic grammar concepts, display cultural awareness, and communicate in simple phrases in Spanish.

SPA 111 Elementary Spanish I (3-0-0-3)

Prerequisites: Eng 090

Corequisites: None

This course introduces the fundamental elements of the Spanish language within a cultural context.

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Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts. This course is also available through the Virtual Learning Community (VLC).*

SPA 112 Elementary Spanish II (3-0-0-3)

Prerequisites: SPA 111

Corequisites: None

This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written Spanish and demonstrate further cultural awareness. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SPA 120 Spanish for the Workplace (3-0-0-3)

Prerequisites: None

Corequisites: None

This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion, students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity.

SPA 141 Culture and Civilization (3-0-0-3)

Prerequisites: None

Corequisites: None

This course provides an opportunity to explore issues related to the Hispanic world. Topics include historical and current events, geography, and customs. Upon completion, students should be able to identify and discuss selected topics and cultural differences related to the Hispanic world. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SPA 151 Hispanic Literature (3-0-0-3)

Prerequisites: ENG 111

Corequisites: None

This course includes selected readings by Hispanic writers. Topics include fictional and non-fictional works by representative authors from a variety of genres and literary periods. Upon completion, students should be able to analyze and discuss selected texts within relevant cultural and historical contexts. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SPA 161 Cultural Immersion (2-3-0-3)

Prerequisites: SPA 111

Corequisites: None

This course explores Hispanic culture through intensive study on campus and field experience in a host country or area. Topics include an overview of linguistic, historical, geographical, sociopolitical, economic, and/or artistic concerns of the area visited. Upon completion, students should be able to exhibit first-hand knowledge of issues pertinent to the host area and demonstrate understanding of cultural differences. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SPA 181 Spanish Lab 1 (0-2-0-1)

Prerequisites: None

Corequisites: SPA 111

This course provides an opportunity to enhance acquisition of the fundamental elements of the Spanish language. Emphasis is placed on the progressive development of basic listening, speaking, reading, and writing skills through the use of various supplementary learning media and materials. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written Spanish and demonstrate cultural awareness. This course is highly recommended for all students taking SPA 111 who are not native speakers or who have not previously studied Spanish. *This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.*

SPA 211 Intermediate Spanish I (3-0-0-3)

Prerequisites: SPA 112

Corequisites: None

This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SPA 212 Intermediate Spanish II (3-0-0-3)

Prerequisites: SPA 211

Corequisites: None

This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in humanities/fine arts.*

SURVEYING

SRV 110 Surveying I (2-6-0-4)

Prerequisites: ARC 111 or EGR 115
and MAT 121, MAT 161,
MAT 171, or MAT 175

Corequisites: None

This course introduces the theory and practice of plane surveying. Topics include measuring distances and angles, differential and profile leveling, compass applications, topography, and mapping. Upon completion, students should be able to use/care for surveying instruments, demonstrate field note techniques, and apply the theory and practice of plane surveying.

SRV 111 Surveying II (2-6-0-4)

Prerequisites: SRV 110

Corequisites: None

This course introduces route surveying and roadway planning and layout. Topics include simple, compound, reverse, spiral, and vertical curves; geometric design and layout; planning of cross-section and grade line; drainage; earthwork calculations; and mass diagrams. Upon completion, students should be able to calculate and lay out highway curves; prepare roadway plans, profiles, and sections; and perform slope staking.

SRV 210 Surveying III (2-6-0-4)

Prerequisites: SRV 110

Corequisites: None

This course introduces boundary surveying, land partitioning, and calculations of areas. Topics include advanced traverses and adjustments, preparation of survey documents, and other related topics. Upon completion, students should be able to research, survey, and map a boundary.

SRV 220 Surveying Law (2-2-0-3)

Prerequisites: SRV 110

Corequisites: None

This course introduces the law as related to the practice of surveying. Topics include surveyors' responsibilities, deed descriptions, title searches, eminent domain, easements, weight of evidence, riparian rights, and other related topics. Upon completion, students should be able to identify and apply the basic legal aspects associated with the practice of land surveying. Oral and written communications skills will be emphasized.

SRV 230 Subdivision Planning (1-6-0-3)

Prerequisites: SRV 111, SRV 210 and CIV 211

Corequisites: None

This course covers the planning aspects of residential subdivisions from analysis of owner and municipal requirements to plat layout and design. Topics include municipal codes, lot sizing, roads, incidental drainage, esthetic considerations, and other related topics. Upon completion, students should be able to prepare a set of subdivision plans.

SRV 240 Topo/Site Surveying (2-6-0-4)

Prerequisites: SRV 110

Corequisites: None

This course covers topographic, site, and construction surveying. Topics include topographic mapping,

earthwork, site planning, construction staking, and other related topics. Upon completion, students should be able to prepare topographic maps and site plans and locate and stake out construction projects.

SRV 250 Advanced Surveying (2-6-0-4)

Prerequisites: SRV 111

Corequisites: None

This course covers advanced topics in surveying. Topics include photogrammetry, astronomical observations, coordinate systems, error theory, GPS, GIS, Public Land System, and other related topics. Upon completion, students should be able to apply advanced techniques to the solution of complex surveying problems.

SRV 260 Field & Office Practices (1-3-0-2)

Prerequisites: Completion of three semesters of the Surveying Technology program.

Corequisites: None

This course covers surveying project management, estimating, and responsibilities of surveying personnel. Topics include record-keeping, starting and operating a surveying business, contracts, regulations, taxes, personnel management, and professional ethics. Upon completion, students should be able to understand the requirements of operating a professional land surveying business.

VETERINARY MEDICAL TECHNOLOGY

VET 110 Animal Breeds and Husbandry (2-2-0-3)

Prerequisites: None

Corequisites: None

This course provides a study of the individual breed characteristics and management techniques of the canine, feline, equine, bovine, porcine, ovine, caprine, and laboratory animals. Topics include physiological data, animal health management, and basic care and handling of animals. Upon completion, students should be able to identify breeds of domestic and laboratory animals, list physiological data, and outline basic care, handling, and management techniques.

VET 120 Veterinary Anatomy & Physiology (3-3-0-4)

Prerequisites: None

Corequisites: None

This course covers the structure and function of the animal body with emphasis on the similarities and differences among domestic animals. Emphasis is placed on the structure and function of the major physiological systems of domestic, laboratory, and zoo animals. Upon completion, students should be able to identify relevant anatomical structure and describe basic physiological processes for the major body systems.

VET 121 Medical Terminology I (3-0-0-3)

Prerequisites: None

Corequisites: None

This course introduces prefixes, suffixes, and word roots. Topics include medical vocabulary and the

Course Descriptions

terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define medical terms as related to selected body systems and their pathological disorders. Competency in computer application skills necessary for successful medical transcription.

VET 122 Veterinary Zoology (3-3-0-4)

Prerequisites: None

Corequisites: None

This course introduces basic concepts and principles of biology including cell structure, metabolism, genetics, evolution, and ecology. Topics include anatomy and physiology, phylogeny, and taxonomy of the animal kingdom. Upon completion, students should be able to explain basic life processes and identify evolutionary relationships among members of the animal kingdom.

VET 123 Veterinary Parasitology (2-3-0-3)

Prerequisites: None

Corequisites: None

This course covers the common internal and external parasites of companion animals, livestock, selected zoo animals, and wild animals. Emphasis is placed on laboratory diagnosis of the most common forms of the parasite through fecal, urine, skin, and blood exams. Upon completion, students should be able to identify common parasites and discuss life-cycles, treatment and prevention strategies, and public health aspects of veterinary parasitology.

VET 125 Veterinary Diseases I (2-0-0-2)

Prerequisites: VET 120

Corequisites: None

This course introduces basic immunology, fundamentals of disease processes including inflammation, and common infectious diseases of animals and their prevention through immunization. Topics include fundamental disease processes, principles of medical therapy, immunologic processes, infections and zoonotic diseases of domestic animals, and prevention of disease. Upon completion, students should be able to describe basic disease and immunological processes, recognize infections and zoonotic diseases, and discuss prevention strategies.

VET 126 Veterinary Diseases II (1-3-0-2)

Prerequisites: VET 125

Corequisites: None

This course is a continuation of VET 125 and includes the study of basic disease processes, fundamentals of pathology, and other selected topics of veterinary medicine. Topics include histopathology, pathologic changes associated with common diseases of animals, necropsy procedures, specimen handling, and other selected material. Upon completion, students should be able to describe basic pathologic changes associated with disease, recognize histopathologic changes, and properly perform collection and submission of necropsy specimens.

VET 131 Veterinary Laboratory Techniques I (2-3-0-3)

Prerequisites: VET 123

Corequisites: VET 133

This course includes the fundamental study of hematology, hemostasis, and urinalysis. Emphasis is placed on basic hematology and urinalysis techniques, manual skill development, instrumentation, quality control, and applications to veterinary science. Upon completion, students should be able to perform manual and automated CBCs, hemostatic assays, and complete urinalyses and maintain laboratory equipment and quality control.

VET 133 Veterinary Clinical Practice I (2-3-0-3)

Prerequisites: None

Corequisites: VET 131, VET 120

This course introduces basic practices and techniques of the veterinary clinic and biomedical research fields for dogs, cats, and laboratory animals. Topics include physical exam, husbandry, housing, sanitation, restraint and handling, administration of medications, anesthesia and euthanasia techniques, grooming, and dentistry. Upon completion, students should be able to properly restrain, medicate, examine, groom, and maintain each of the species studied.

VET 137 Vet Office Practices (1-2-0-2)

Prerequisites: None

Corequisites: None

This course is designed to teach basic administrative techniques, client communication skills, and regulations pertaining to veterinary medicine. Topics include record keeping, telephone techniques, professional liability, office procedures, state and national regulatory laws, human relations, and animal welfare. Upon completion, students should be able to demonstrate effective communication techniques, office procedures, and knowledge of regulatory laws and issues relating to animal welfare. Additional studies will emphasize the use of computers and software in veterinary practice management.

VET 211 Veterinary Laboratory Techniques II (2-3-0-3)

Prerequisites: VET 131

Corequisites: VET 213

This course covers advanced hematology, serology, immunology, and clinical chemistry. Topics include advanced hematology, serologic, and immunologic test procedures; manual and automated clinical chemistry procedures; laboratory safety; and quality control. Upon completion, students should be able to collect, prepare, and analyze serum and plasma samples and outline quality control and safety procedures.

VET 212 Veterinary Laboratory Techniques III (2-3-0-3)

Prerequisites: VET 211

Corequisites: VET 214

This course introduces the basic principles of microbiology, histology, and cytology. Emphasis is placed on collection of microbiological samples for culture and sensitivity and collection and preparation of samples for histological and cytological examination. Upon completion, students should be able to perform

microbiological culture and sensitivity and evaluate cytology and histology specimens.

VET 213 Veterinary Clinical Practice II (1-9-0-4)

Prerequisites: VET 133

Corequisites: None

This course covers basic radiography, anesthesia techniques, dentistry, sample collection and handling, surgical assistance and instrumentation, sterile techniques, and patient record keeping. Topics include basic radiography, injectable and gas anesthesia, dentistry, instrument identification and care, sterile surgical technique, specimen collection and processing, and maintenance of patient records. Upon completion, students should be able to take and process radiographs, administer and monitor anesthesia, assist in surgical procedures, collect specimens, and maintain surgical records. Students will continue to gain proficiency in the use of veterinary computer software programs for record keeping, inventory management, and practice economics.

VET 214 Veterinary Clinical Practice III (1-9-0-4)

Prerequisites: VET 213

Corequisites: None

This course covers advanced anesthetic techniques, special radiographic techniques, advanced dentistry, sample collection and processing, bandaging, and emergency and critical care procedures. Topics include induction and maintenance of anesthesia, radiographic contrast studies, advanced dentistry, external coaptation, intensive care procedures, and advanced sample collection techniques. Upon completion, students should be able to demonstrate proficiency in sample collection, radiology, anesthesia, critical care and emergency procedures, and dentistry. Students will continue to gain proficiency in the use of veterinary computer software applications for patient record keeping, inventory management, and practice economics.

VET 215 Veterinary Pharmacology (3-0-0-3)

Prerequisites: CHM 130, CHM 130A

Corequisites: VET 213

This course introduces drugs and other substances utilized in veterinary medicine. Emphasis is placed on drug classification and methods of action, administration, effects and side effects, storing and handling of drugs, and dosage calculations. Upon completion, students should be able to properly calculate and administer medications, recognize adverse reactions, and maintain pharmaceutical inventory and administration records. Students will demonstrate math competencies in algebraic computations necessary to successfully calculate drug dosages and perform conversions to the metric system.

VET 217 Large Animal Clinical Practice (2-3-0-3)

Prerequisites: VET 120

Corequisites: VET 213

This course covers topics relevant to the medical and surgical techniques for the common domestic large animal species. Topics include physical exam, restraint, sample collection, bandaging, emergency treatment, surgical and obstetrical procedures and instruments, herd health, and lameness topics. Upon completion, students should be able to safely perform

restraint, examination, and sample collection; assist surgical, obstetrical, and emergency procedures; and discuss herd health.

VET 237 Animal Nutrition (3-0-0-3)

Prerequisites: None

Corequisites: None

This course covers the principles of nutrition and their application to feeding practices of domestic, farm, and companion animals. Topics include basic nutrients and nutritional needs of individual species, proximate analysis, interpretation of food and feed labels, types of animal foods, and ration formulation. Upon completion, students should be able to select appropriate diets for animals in various stages of health and disease, analyze nutrition labels, and identify foods.

WEB TECHNOLOGIES

WEB 110 Internet/Web Fundamentals (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces basic markup language, various navigational tools and services of the Internet. Topics include creating web pages, using internet protocols, search engines, file compression/decompression, FTP, email, listservers, and other related topics. Upon completion, students should be able to deploy a website created with basic markup language, retrieve/decompress files, email, FTP, and utilize other internet tools.

WEB 115 Web Markup and Scripting (2-2-0-3)

Prerequisites: WEB 110

Corequisites: None

This course introduces client-side Internet programming using the current W3C-recommended presentation markup language and supporting elements. Topics include site management and development, markup elements, stylesheets, validation, accessibility, standards, browsers, and basic JavaScripting. Upon completion, students should be able to hand-code web pages with various media elements according to current markup standards and integrate them into websites.

WEB 120 Intro Internet Multimedia (2-2-0-3)

Prerequisites: WEB 110

Corequisites: None

This is the first of two courses covering the creation of internet multimedia. Topics include internet multimedia file types, file type conversion, acquisition of digital audio/video, streaming audio/video and graphics animation plug-in programs and other related topics. Upon completion, students should be able to create internet multimedia presentations utilizing a variety of methods and applications.

WEB 140 Web Development Tools (2-2-0-3)

Prerequisites: WEB 110

Corequisites: None

This course provides an introduction to web development software suites. Topics include the creation of web sites and applets using web development software. Upon completion, students should be able to create entire web sites and supporting applets.

Course Descriptions

WEB 180 Active Server Pages (2-2-0-3)

Prerequisites: CIS 115, DBA 115, WEB 110, WEB 115

Corequisites: None

This course introduces Active Server Programming. Topics include Jscript, VBScript, HTML forms processing, and the Active Server Object Model. Upon completion, students should be able to create and maintain Active Server applications.

WEB 182 PHP Programming (2-2-0-3)

Prerequisites: CIS 115, WEB 110, WEB 115

Corequisites: None

This course introduces students to the server-side, HTML-embedded scripting language PHP. Emphasis is placed on programming techniques required to create dynamic web pages using PHP scripting language features. Upon completion, students should be able to design, code, test, debug, and create a dynamic web site using the PHP scripting language.

WEB 183 Perl Programming (2-2-0-3)

Prerequisites: CIS 115, WEB 110, WEB 115

Corequisites: None

This course introduces students to the Perl Programming language. Topics include programming techniques using CGI script, input/output operations, sequence, iteration, selection, arithmetic operations, subroutines, modules, integrating database, pattern matching and other related topics. Upon completion, students should be able to design, code, test, and debug Perl language programs.

WEB 210 Web Design (2-2-0-3)

Prerequisites: WEB 110, WEB 115, WEB 120, WEB 140

Corequisites: None

This course introduces intermediate to advanced web page design techniques. Topics include effective use of graphics, fonts, colors, navigation tools, advanced markup language elements, as well as a study of bad design techniques. Upon completion, students should be able to employ advanced design techniques to create high impact and highly functional web pages.

WEB 211 Advanced Web Graphics (2-2-0-3)

Prerequisites: WEB 110

Corequisites: None

This course is the second of two courses covering web graphics. Topics include graphics acquisition using scanners and digital cameras, graphics optimization, use of masks, advanced special effects, GIF animation, and other related topics. Upon completion, students should be able to create graphics optimized for size, graphic file type, properly converted from digitized sources and create useful animated graphics.

WEB 230 Implementing Web Serv (2-2-0-3)

Prerequisites: NET 110 or NET 125, WEB 110, WEB 115

Corequisites: None

This course covers website and web server architecture. Topics include installation, configuration, administration, and security of web servers, services and sites. Upon completion, students should be able to effectively manage the web services deployment lifecycle according to industry standards.

WEB 250 Database Driven Websites (2-2-0-3)

Prerequisites: DBA 110, DBA 115, WEB 115, WEB 140, WEB 230

Corequisites: None

This course introduces dynamic (database-driven) website development. Topics include the use of basic database CRUD statements (create, read, update and delete) incorporated into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.

WEB 260 E-Commerce Infrastructure (2-2-0-3)

Prerequisites: WEB 210, WEB 250

Corequisites: None

This course introduces the concepts and tools to implement electronic commerce via the Internet. Topics include application and server software selection, securing transactions, use and verification of credit cards, publishing of catalogs, documentation, and site administration. Upon completion, students should be able to setup a working e-commerce Internet web site.

WELDING

WLD 110 Cutting Processes (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness. This course also introduces the oxy-fuel welding and brazing processes.

WLD 111 Oxy-Fuel Welding (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces the oxy-fuel welding process. Topics include safety, proper equipment setup, and operation of oxy-fuel welding equipment with emphasis on bead application, profile, and discontinuities. Upon completion, students should be able to oxy-fuel weld fillets and grooves on plate and pipe in various positions.

WLD 112 Basic Welding Processes (1-3-0-2)

Prerequisites: None

Corequisites: None

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

WLD 115 SMAW (Stick) Plate (2-9-0-5)

Prerequisites: None

Corequisites: None

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students



should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes. This course also introduces the concepts of welding metallurgy.

WLD 116 SMAW (Stick) Plate/Pipe (1-9-0-4)

Prerequisites: WLD 115

Corequisites: None

This course is designed to enhance skills with the shielded metal arc (stick) welding process. Emphasis is placed on advancing manipulative skills with SMAW electrodes on varying joint geometry. Upon completion, students should be able to perform groove welds on carbon steel with prescribed electrodes in the flat, horizontal, vertical, and overhead positions. This course also includes the knowledge and skills that apply to welding pipe.

WLD 121 GMAW (MIG) FCAW/Plate (2-6-0-4)

Prerequisites: None

Corequisites: None

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions. This course also introduces TIG welding.

WLD 131 GTAW (TIG) Plate (2-6-0-4)

Prerequisites: None

Corequisites: None

This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials. This course also introduces GTAW on pipe.

WLD 141 Symbols & Specifications (2-2-0-3)

Prerequisites: None

Corequisites: None

This course introduces the basic symbols and specifications used in welding. Emphasis is placed on interpretation of lines, notes, welding symbols, and specifications. Upon completion, students should be able to read and interpret symbols and specifications commonly used in welding.

WLD 151 Fabrication I (2-6-0-4)

Prerequisites: WLD 110, WLD 115, WLD 116, and WLD 131

Corequisites: None

This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, and the use of fabrication tools and equipment. Upon completion, students should be able to perform layout activities and operate various fabrication and material handling equipment. Student will also be able to fabricate projects.

ZOOLOGY - See Biology

This is the most current version available at printing time; however, items change rapidly. Please check with your advisor.

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