ACD. Academic Related

ACA-111 College Student Success
Class 1  Lab 0  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ACA-122 College Transfer Success
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ACC. Accounting

ACC-115 College Accounting
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
This course introduces basic accounting principles for a business. 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ACC-120 Principles of Financial Accounting
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ACC-121 Principles of Managerial Accounting
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
This course includes a greater emphasis on managerial and cost accounting skills. 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.
Minimum State Prerequisites: Take ACC-120
Minimum State Corequisites: None

ACC-131 Federal Income Taxes
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course provides an overview of federal income taxes for individuals, partnerships, and corporations. Topics include tax law, electronic research and methodologies and the use technology for the preparation of individual and business tax returns. Upon completion, students should be able to analyze basic tax scenarios, research applicable tax laws, and complete federal tax returns for individuals, partnerships, and corporations.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ACC-132 NC Business Taxes
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course introduces the relevant laws governing North Carolina taxes as they apply to business. Topics include sales taxes, income taxes for business entities, payroll taxes, unemployment taxes, and other taxes pertaining to the State of North Carolina. Upon completion, students should be able to maintain a company’s records to comply with the laws governing North Carolina business taxes.
Minimum State Prerequisites: None
Minimum State Corequisites: None
**ACC-140 Payroll Accounting**

Class 1  Lab 3  Clinical 0  Work 0  Credit 2

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**ACC-149 Introduction to Accounting Spreadsheets**

Class 1  Lab 3  Clinical 0  Work 0  Credit 2

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**ACC-150 Accounting Software Applications**

Class 1  Lab 3  Clinical 0  Work 0  Credit 2

This course introduces microcomputer 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 package to accurately solve accounting problems.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**ACC-220 Intermediate Accounting I**

Class 3  Lab 2  Clinical 0  Work 0  Credit 4

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 analysis of balance sheet components. Upon completion, students should be able to demonstrate competence in the conceptual framework underlying financial accounting, including the application of financial standards.

Minimum State Prerequisites: Take ACC-120
Minimum State Corequisites: None

**ACC-240 Gov & Not-For-Profit Acct**

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: Take ACC-121
Minimum State Corequisites: None

**AHR. Air Conditioning, Heating, Refrigeration**

**AHR-110 Introduction to Refrigeration**

Class 2  Lab 6  Clinical 0  Work 0  Credit 5

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**AHR-112 Heating Technology**

Class 2  Lab 4  Clinical 0  Work 0  Credit 4

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**AHR-113 Comfort Cooling**

Class 2  Lab 4  Clinical 0  Work 0  Credit 4

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 psychrometrics, manufacturer specifications, and test instruments to determine proper system operation.

Minimum State Prerequisites: None
Minimum State Corequisites: None
**AHR-114 Heat Pump Technology**  
**Class 2**  
**Lab 4**  
**Clinical 0**  
**Work 0**  
**Credit 4**  

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.

Minimum State Prerequisites: Take One: AHR-110 or AHR-113  
Minimum State Corequisites: None

**AHR-130 HVAC Controls**  
**Class 2**  
**Lab 2**  
**Clinical 0**  
**Work 0**  
**Credit 3**  

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.

Minimum State Prerequisites: Take One: AHR-111, ELC-111, or ELC-112  
Minimum State Corequisites: None

**AHR-133 HVAC Servicing**  
**Class 2**  
**Lab 6**  
**Clinical 0**  
**Work 0**  
**Credit 4**  

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.

Minimum State Prerequisites: None  
Minimum State Corequisites: Take One: AHR-112 or AHR-113

**AHR-160 Refrigerant Certification**  
**Class 1**  
**Lab 0**  
**Clinical 0**  
**Work 0**  
**Credit 1**  

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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**AHR-180 HVACR Customer Relations**  
**Class 1**  
**Lab 0**  
**Clinical 0**  
**Work 0**  
**Credit 1**  

This course introduces common business and customer relation practices that may be encountered in HVACR. Topics include business practices, appearance of self and vehicle, ways of handling customer complaints, invoices, telephone communications, and warranties. Upon completion, students should be able to present themselves to customers in a professional manner, understand how the business operates, complete invoices, and handle complaints.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**AHR-211 Residential System Design**  
**Class 2**  
**Lab 2**  
**Clinical 0**  
**Work 0**  
**Credit 3**  

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

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**AHR-212 Advanced Comfort Systems**  
**Class 2**  
**Lab 6**  
**Clinical 0**  
**Work 0**  
**Credit 4**  

This course covers water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pump systems including variable speed drives and controls. Emphasis is placed on the application, installation, and servicing of water-source systems and the mechanical and electronic control components of advanced comfort systems. Upon completion, students should be able to test, analyze, and troubleshoot water-cooled comfort systems, water-source/geothermal heat pumps, and high efficiency heat pumps.

Minimum State Prerequisites: Take AHR-114  
Minimum State Corequisites: None

**AHR-213 HVACR Building Code**  
**Class 1**  
**Lab 2**  
**Clinical 0**  
**Work 0**  
**Credit 2**  

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

Minimum State Prerequisites: None  
Minimum State Corequisites: None
AHR-240 Hydronic Heating
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course covers the accepted procedures for proper design, installation, and balance of hydronic heating systems for residential or commercial buildings. Topics include heating equipment; pump, terminal unit, and accessory selection; piping system selection and design; and pipe sizing and troubleshooting. Upon completion, students should be able to assist with the proper design, installation, and balance of typical hydronic systems.
Minimum State Prerequisites: Take AHR-112
Minimum State Corequisites: None

AHR-250 Heating, Ventilating, and Air Conditioning Diagnostics
Class 0  Lab 4  Clinical 0  Work 0  Credit 2
This course is a comprehensive study of air conditioning, heating, and refrigeration system diagnostics and corrective measures. Topics include advanced system analysis, measurement of operating efficiency, and inspection and correction of all major system components. Upon completion, students should be able to restore a residential or commercial AHR system so that it operates at or near manufacturers' specifications.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ANT. Anthropology

ANT-210 General Anthropology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ANT-220 Cultural Anthropology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ANT-221 Comparative Cultures
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART. Art

ART-111 Art Appreciation
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-113 Art Methods and Materials
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course provides an overview of media and techniques. Emphasis is placed on exploration and manipulation of materials. Upon completion, students should be able to demonstrate familiarity with a variety of methods, materials, and processes.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-114 Art History Survey I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-115 Art History Survey II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
ART-116 Survey of American Art
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-117 Non-Western Art History
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-121 Two-Dimensional Design
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-122 Three-Dimensional Design
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-131 Drawing I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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 and various drawing processes.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-132 Drawing II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ART-131
Minimum State Corequisites: None

ART-135 Figure Drawing I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ART-131
Minimum State Corequisites: None

ART-171 Computer Art I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-212 Gallery Assistantship I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-222 Wood Design I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
ART-231 Printmaking I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-232 Printmaking II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course includes additional methods and printmaking 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.
Minimum State Prerequisites: Take ART-231
Minimum State Corequisites: None

ART-235 Figure Drawing II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course extends the study and rendering of the draped and undraped human figure. Emphasis is placed on the exploration of materials and approaches to drawing. Upon completion, students should be able to demonstrate creativity in the representation of the figure.
Minimum State Prerequisites: Take ART-135
Minimum State Corequisites: None

ART-240 Painting I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-241 Painting II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ART-240
Minimum State Corequisites: None

ART-245 Metals I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course introduces basic metal design in traditional and contemporary art forms using brass, copper, and silver. Emphasis is placed on designing and fabricating jewelry, small sculptures, and utilitarian objects. Upon completion, students should be able to design and produce small art objects.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-246 Metals II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course provides a continuation of metal design utilizing basic methods of casting and other processes. Emphasis is placed on individualized design. Upon completion, students should be able to design and produce expressive forms.
Minimum State Prerequisites: Take ART-245
Minimum State Corequisites: None

ART-247 Jewelry I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-248 Jewelry II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-260 Photography Appreciation
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
ART-261 Photography I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-262 Photography II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ART-261
Minimum State Corequisites: None

ART-264 Digital Photography I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-265 Digital Photography II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-266 Videography I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course introduces various aspects of basic video production including concept development, scripting, camera operation, and post-production. Emphasis is placed on creative expression, camera handling, story boarding, and editing. Upon completion, students should be able to demonstrate a basic understanding of video camera operation and production techniques.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-267 Videography II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
This course is designed to provide a framework for the production of a long-term video project. Emphasis is placed on realization of the unique creative vision. Upon completion, students should be able to produce a thematically coherent, edited video with sound and titling.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-271 Computer Art II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-281 Sculpture I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ART-282 Sculpture II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ART-281
Minimum State Corequisites: None

ART-283 Ceramics I
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
ART-284 Ceramics II
Class 0  Lab 6  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ART-283
Minimum State Corequisites: None

ASL. American Sign Language

ASL-111 Elementary ASL I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the fundamental elements of American Sign Language within a cultural context. Emphasis is placed on the development of basic expressive and receptive skills. Upon completion, students will be able to comprehend and respond with grammatical accuracy to expressive American Sign Language and demonstrate cultural awareness.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ASL-112 Elementary ASL II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is a continuation of ASL 111 focusing on the fundamental elements of American Sign Language in a cultural context. Emphasis is placed on the progressive development of expressive and receptive skills. Upon completion, the students should be able to comprehend and respond with increasing accuracy to expressive American Sign Language and demonstrate cultural awareness.
Minimum State Prerequisites: Take ASL-111
Minimum State Corequisites: None

AST. Astronomy

AST-111 Descriptive Astronomy
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

AST-111A Descriptive Astronomy Lab
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: Take AST-111

AST-151 General Astronomy I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the science of modern astronomy with a concentration on the solar system. Emphasis is placed on the history and physics of astronomy and an introduction to the solar system, including the planets, comets, and meteors. Upon completion, students should be able to demonstrate a general understanding of the solar system.
Minimum State Prerequisites: None
Minimum State Corequisites: None

AST-151A General Astronomy I Lab
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
The course is a laboratory to accompany AST 151. Emphasis is placed on laboratory experiences which enhance the materials presented in AST 151 and which provide practical experience. Upon completion, students should be able to demonstrate a general understanding of the solar system.
Minimum State Prerequisites: None
Minimum State Corequisites: Take AST-151

ATR. Automation & Robotics

ATR-112 Introduction to Automation
Class 2  Lab 3  Clinical 0  Work 0  Credit 3
This course introduces the basic principles of automated systems 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
BAT. Building Automation Technology

BAT-111 Building Automation Systems
Class 1  Lab 3  Clinical 0  Work 0  Credit 2

This course introduces the issues involved with building automation systems (BAS). Topics include digital direct control (DDC), field devices, human machine interface (HMI), BAS design and specification, energy conservation control strategies, and system maintenance. Upon completion, students should identify and describe the major components in a BAS, explain the basic functions of DDC systems and HMI basics, reference codes and standards applicable to BAS, and justify control components for project work.

Minimum State Prerequisites: None
Minimum State Corequisites: None

BIO. Biology

BIO-110 Principles of Biology
Class 3  Lab 3  Clinical 0  Work 0  Credit 4

This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

BIO-111 General Biology I
Class 3  Lab 3  Clinical 0  Work 0  Credit 4

This course introduces the principles and concepts of biology. Emphasis is placed on basic biological chemistry, molecular and cellular biology, metabolism and energy transformation, genetics, evolution, and other related topics. Upon completion, students should be able to demonstrate understanding of life at the molecular and cellular levels.

Minimum State Prerequisites: None
Minimum State Corequisites: None

BIO-112 General Biology II
Class 3  Lab 3  Clinical 0  Work 0  Credit 4

This course is a continuation of BIO 111. Emphasis is placed on organisms, evolution, 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.

Minimum State Prerequisites: Take BIO-111
Minimum State Corequisites: None

BIO-120 Introductory Botany
Class 3  Lab 3  Clinical 0  Work 0  Credit 4

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.

Minimum State Prerequisites: Take One: BIO-110 or BIO-111
Minimum State Corequisites: None

BIO-130 Introductory Zoology
Class 3  Lab 3  Clinical 0  Work 0  Credit 4

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.

Minimum State Prerequisites: Take One: BIO-110 or BIO-111
Minimum State Corequisites: None

BIO-140 Environmental Biology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
**BIO-140A Environmental Biology Lab**  
Class 0  Lab 3  Clinical 0  Work 0  Credit 1  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: Take BIO-140

**BIO-163 Basic Anatomy & Physiology**  
Class 4  Lab 2  Clinical 0  Work 0  Credit 5  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

**BIO-165 Anatomy and Physiology I**  
Class 3  Lab 3  Clinical 0  Work 0  Credit 4  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

**BIO-166 Anatomy and Physiology II**  
Class 3  Lab 3  Clinical 0  Work 0  Credit 4  
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.  
Minimum State Prerequisites: Take BIO-165  
Minimum State Corequisites: None

**BIO-168 Anatomy and Physiology I**  
Class 3  Lab 3  Clinical 0  Work 0  Credit 4  
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, and nervous systems and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

**BIO-169 Anatomy and Physiology II**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 4  
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.  
Minimum State Prerequisites: Take BIO-168  
Minimum State Corequisites: None

**BIO-175 General Microbiology**  
Class 2  Lab 2  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: Take One: BIO-110, BIO-111, BIO-163, BIO-165, or BIO-168  
Minimum State Corequisites: None

**BIO-176 General Microbiology**  
Class 2  Lab 2  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: Take One: BIO-110, BIO-111, BIO-163, BIO-165, or BIO-168  
Minimum State Corequisites: None

**BIO-271 Pathophysiology**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: Take One: BIO-163, BIO-166, or BIO-169  
Minimum State Corequisites: None
BIO-275 Microbiology
Class 3   Lab 3   Clinical 0   Work 0   Credit 4

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

Minimum State Prerequisites: Take One: BIO 110, BIO 111, BIO 163, BIO 165, or BIO 168
Minimum State Corequisites: None

BPM. Bio-processing Manufacturing Technology

BPM-110 Bioprocess Practices
Class 3   Lab 4   Clinical 0   Work 0   Credit 5

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

BPM-111 Bioprocess Measurements
Class 3   Lab 3   Clinical 0   Work 0   Credit 4

This course covers a variety of physical measurements. Emphasis is placed on pH, temperature, pressure and flow rates, as well as spectrophotometry, and biochemical and chemical analysis methods. Upon completion, students should be able to demonstrate and perform many aspects of process monitoring.

Minimum State Prerequisites: Take All: BIO-110 and BPM-110
Minimum State Corequisites: None

BPM-112 Upstream Processing
Class 3   Lab 4   Clinical 0   Work 0   Credit 5

This course introduces techniques involved in cell growth and fractionation. Topics include fermentation theory and application, as well as cell harvesting, cell disruption and fractionation methods. Upon completion, students should be able to grow cells, as well as isolate and collect various fractions.

Minimum State Prerequisites: Take BPM-111
Minimum State Corequisites: None

BPM-113 Downstream Bioprocessing
Class 3   Lab 3   Clinical 0   Work 0   Credit 4

This course introduces a variety of techniques involved in separation procedures. Topics include extraction and precipitation, concentration and molecular filtration methods, as well as different types of chromatography. Upon completion, students should be able to perform separation procedures with an understanding of industrial scale procedures.

Minimum State Prerequisites: Take All: BPM-111, CHM-131, and CHM-131A
Minimum State Corequisites: None

BPR. Blueprint Reading

BPR-111 Print Reading
Class 1   Lab 2   Clinical 0   Work 0   Credit 2

This course introduces the basic principles of print reading. Topics include line types, orthographic projections, dimensioning methods, and notes. Upon completion, students should be able to interpret basic prints and visualize the features of a part or system.

Minimum State Prerequisites: None
Minimum State Corequisites: None

BPR-115 Electrical/Fluid Power Diagrams
Class 1   Lab 2   Clinical 0   Work 0   Credit 2

This course covers sketching of detail and assembly drawings and reading of hydraulic, pneumatic, electrical, mechanical, and piping schematics. Emphasis is placed on interpretation and communication skills utilizing sketches, symbols, diagrams, and other related topics. Upon completion, students should be able to read, demonstrate an understanding of, and draw sketches and schematics commonly used in industry.

Minimum State Prerequisites: None
Minimum State Corequisites: None

BTC. Biotechnology

BTC-275 Industrial Microbiology
Class 3   Lab 3   Clinical 0   Work 0   Credit 4

This course covers principles of microbiology and the impact microorganisms have on man and the environment in industrial settings where controlled environments are commonplace. Topics include the structure and physiology of various classes of microorganisms, microbial pathogenicity, infectious diseases, identification schemes, and prevention or minimization of contamination in biomanufacturing industrial settings. Upon completion, students should be able to demonstrate knowledge and skills including microscopy, aseptic technique, staining, culture methods, identification of microorganisms, and performing environmental monitoring.

Minimum State Prerequisites: Take One: BIO-110, BIO-111, BIO-163, BIO-165, or BIO-168
Minimum State Corequisites: None
BUS. Business

BUS-110 Introduction to Business
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-115 Business Law I
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
This course introduces the student to the legal and ethical framework of business. Contracts, negotiable instruments, the law of sales, torts, crimes, constitutional law, the Uniform Commercial Code, and the court systems are examined. Upon completion the student should be able to identify legal and ethical issues that arise in business decisions and the laws that apply to them.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-121 Business Math
Class 2   Lab 2   Clinical 0   Work 0   Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-137 Principles of Management
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-139 Entrepreneurship I
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
This course provides an introduction to the principles of entrepreneurship. Topics include self-analysis of entrepreneurship readiness, the role of entrepreneur in economic development, legal problems, organizational structure, sources of financing, budgeting, and cash flow. Upon completion, students should have an understanding of the entrepreneurial process and issues faced by entrepreneurs.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-151 People Skills
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
This course introduces the basic concepts of identity and communication in the business setting. Topics include self-concept, values, communication styles, feelings and emotions, roles versus relationships, and basic assertiveness, listening, and conflict resolution. Upon completion, students should be able to distinguish between unhealthy, self-destructive, communication patterns and healthy, non-destructive, positive communication patterns.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-225 Business Finance
Class 2   Lab 2   Clinical 0   Work 0   Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

BUS-260 Business Communication
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
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.
Minimum State Prerequisites: Take One: ENG-110 or ENG-111
Minimum State Corequisites: None
**CHM. Chemistry**

**CHM-131 Introduction to Chemistry**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**CHM-131A Introduction to Chemistry Lab**
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: Take CHM-131

**CHM-132 Organic and Biochemistry**
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: Take one set: Set 1: CHM-131 and CHM-131A Set 2: CHM-151
Minimum State Corequisites: None

**CHM-151 General Chemistry I**
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**CHM-152 General Chemistry II**
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: Take CHM-151
Minimum State Corequisites: None

**CHM-251 Organic Chemistry I**
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: Take CHM-152
Minimum State Corequisites: None

**CHM-252 Organic Chemistry II**
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: Take CHM-251
Minimum State Corequisites: None

**CIS. Information Systems**

**CIS-110 Introduction to Computers**
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
CIS-111 Basic PC Literacy

Class 1  Lab 2  Clinical 0  Work 0  Credit 2

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CIS-115 Introduction to Programming and Logic

Class 2  Lab 3  Clinical 0  Work 0  Credit 3

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 use top-down algorithm design and implement algorithmic solutions in a programming language.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC. Criminal Justice

CJC-100 Basic Law Enforcement Training

Class 9  Lab 30  Clinical 0  Work 0  Credit 19

This course covers the basic 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 sheriffs-specific. Upon successful completion, the student will be able to demonstrate competence in the topics and areas required for the state comprehensive certification examination.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-111 Introduction to Criminal Justice

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-112 Criminology

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-113 Juvenile Justice

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-121 Law Enforcement Operations

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-131 Criminal Law

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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 apply the appropriate statutes/elements.

Minimum State Prerequisites: None
Minimum State Corequisites: None
CJC-132 Court Procedure & Evidence
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-141 Corrections
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-144 Crime Scene Processing
Class 2  Lab 3  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-146 Trace Evidence
Class 2  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-211 Counseling
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-212 Ethics & Community Relations
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-213 Substance Abuse
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-214 Victimology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
CJC-215 Organization & Administration
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-221 Investigative Principles
Class 3 Lab 2 Clinical 0 Work 0 Credit 4
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-231 Constitutional Law
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-244 Footwear and Tire Imprint
Class 2 Lab 3 Clinical 0 Work 0 Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-245 Friction Ridge Analysis
Class 2 Lab 3 Clinical 0 Work 0 Credit 3
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, the students should be able to discuss and demonstrate the fundamental techniques of basic fingerprint technology.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-246 Advanced Friction Ridge Analysis
Class 2 Lab 3 Clinical 0 Work 0 Credit 3
This course introduces the theories and processes of advanced friction ridge analysis. Topics include evaluation of friction ridges, chart preparation, comparative analysis for values 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.

Minimum State Prerequisites: Take CJC-245
Minimum State Corequisites: None

CJC-250 Forensic Biology I
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CJC-251 Forensic Chemistry I
Class 2 Lab 2 Clinical 0 Work 0 Credit 4
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
**COM. Communication**

**COM-110 Introduction to Communication**

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**COM-120 Intro to Interpersonal Communication**

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**COM-231 Public Speaking**

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**COM-251 Debate I**

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

This course introduces the principles of debate. Emphasis is placed on argument, refutation, research, and logic. Upon completion, students should be able to use research skills and logic in the presentation of ideas within the context of formal debate.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**COS. Cosmetology**

**COS-111 Cosmetology Concepts I**

Class 4  Lab 0  Clinical 0  Work 0  Credit 4

This course introduces basic cosmetology concepts. Topics include safety, first aid, sanitation, bacteriology, anatomy, diseases and disorders, hygiene, product knowledge, chemistry, ethics, manicures, and other related topics. Upon completion, students should be able to safely and competently apply cosmetology concepts in the salon setting.

Minimum State Prerequisites: None
Minimum State Corequisites: Take COS-112

**COS-112 Salon I**

Class 0  Lab 24  Clinical 0  Work 0  Credit 8

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.

Minimum State Prerequisites: None
Minimum State Corequisites: Take COS-111

**COS-113 Cosmetology Concepts II**

Class 4  Lab 0  Clinical 0  Work 0  Credit 4

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**COS-114 Salon II**

Class 0  Lab 24  Clinical 0  Work 0  Credit 8

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
COS-115 Cosmetology Concepts III  
Class 4  Lab 0  Clinical 0  Work 0  Credit 4  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None  

COS-116 Salon III  
Class 0  Lab 12  Clinical 0  Work 0  Credit 4  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None  

COS-117 Cosmetology Concepts IV  
Class 2  Lab 0  Clinical 0  Work 0  Credit 2  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None  

COS-118 Salon IV  
Class 0  Lab 21  Clinical 0  Work 0  Credit 7  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None  

COS-224 Trichology & Chemistry  
Class 1  Lab 3  Clinical 0  Work 0  Credit 2  
This course is a study of hair and the interaction of applied chemicals. Emphasis is placed on pH actions and the reactions and effects of chemical ingredients. Upon completion, students should be able to demonstrate an understanding of chemical terminology, pH testing, and chemical reactions on hair.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None  

COS-271 Instructor Concepts I  
Class 5  Lab 0  Clinical 0  Work 0  Credit 5  
This course introduces the basic cosmetology instructional concepts. Topics include orientation, theories of education, unit planning, daily lesson planning, laboratory management, student assessment, record keeping, and other related topics. Upon completion, students should be able to identify theories of education, develop lesson plans, demonstrate supervisory techniques, and assess student performance in a classroom setting.  
Minimum State Prerequisites: None  
Minimum State Corequisites: Take COS-272  

COS-272 Instructor Practicum I  
Class 0  Lab 21  Clinical 0  Work 0  Credit 7  
This course covers supervisory and instructional skills for teaching entry-level cosmetology students in a laboratory setting. Topics include demonstrations of services, supervision, and entry-level student assessment. Upon completion, students should be able to demonstrate salon services and instruct and objectively assess the entry-level student.  
Minimum State Prerequisites: None  
Minimum State Corequisites: Take COS-271  

COS-273 Instructor Concepts II  
Class 5  Lab 0  Clinical 0  Work 0  Credit 5  
This course covers advanced cosmetology instructional concepts. Topics include practical demonstrations, lesson planning, lecture techniques, development and administration of assessment tools, record keeping, and other related topics. Upon completion, students should be able to develop lesson plans, demonstrate supervision techniques, assess student performance in a classroom setting, and keep accurate records.  
Minimum State Prerequisites: Take All: COS-271 and COS-272  
Minimum State Corequisites: Take COS-274
### COS-274 Instructor Practicum II

**Class 0  Lab 21  Clinical 0  Work 0  Credit 7**

This course is designed to develop supervisory and instructional skills for teaching advanced cosmetology students in a laboratory setting. Topics include practical demonstrations, supervision, and advanced student assessment. Upon completion, students should be able to demonstrate competence in the areas covered by the Instructor Licensing Examination and meet program completion requirements.

Minimum State Prerequisites: Take All: COS-271 and COS-272
Minimum State Corequisites: Take COS-273

### CSC. Computer Science

#### CSC-134 C++ Programming

**Class 2  Lab 3  Clinical 0  Work 0  Credit 3**

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 and debug at a beginning level.

Minimum State Prerequisites: None
Minimum State Corequisites: None

#### CSC-139 Visual BASIC Programming

**Class 2  Lab 3  Clinical 0  Work 0  Credit 3**

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

#### CSC-151 JAVA Programming

**Class 2  Lab 3  Clinical 0  Work 0  Credit 3**

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. Upon completion, students should be able to design, code, test, debug JAVA language programs.

Minimum State Prerequisites: None
Minimum State Corequisites: None

### CSC-239 Advanced Visual BASIC Programming

**Class 2  Lab 3  Clinical 0  Work 0  Credit 3**

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

### CTI. Computer Tech Integr.

#### CTI-110 Web, Programming, and Database Foundation

**Class 2  Lab 2  Clinical 0  Work 0  Credit 3**

This course covers the introduction of the tools and resources available to students in programming, mark-up language and services on the Internet. Topics include standard mark-up language Internet services, creating web pages, using search engines, file transfer programs; and database design and creation with DBMS products. Upon completion students should be able to demonstrate knowledge of programming tools, deploy a web-site with mark-up tools, and create a simple database table.

Minimum State Prerequisites: None
Minimum State Corequisites: None

#### CTI-120 Network and Security Foundation

**Class 2  Lab 2  Clinical 0  Work 0  Credit 3**

This course introduces students to the Network concepts, including networking terminology and protocols, local and wide area networks, and network standards. Emphasis is placed on securing information systems and the various implementation policies. Upon completion, students should be able to perform basic tasks related to networking mathematics, terminology, media and protocols.

Minimum State Prerequisites: None
Minimum State Corequisites: None

#### CTI-140 Virtualization Concepts

**Class 1  Lab 4  Clinical 0  Work 0  Credit 3**

This course introduces operating system virtualization. Emphasis is placed on virtualization terminology, virtual machine storage, virtual networking and access control. Upon completion, students should be able to perform tasks related to installation, configuration and management of virtual machines.

Minimum State Prerequisites: None
Minimum State Corequisites: None
CTS. Sys Analysis & Design

CTS-115 Information Systems Business Concepts
Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CTS-120 Hardware/Software Support
Class 2  Lab 3  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CVS. Cardiovascular Sonography

CVS-160 Cardiovascular Sonography Clinical Education I
Class 0  Lab 4  Clinical 9  Work 0  Credit 5

This course provides active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CVS-161 CVS Clinical Education II
Class 0  Lab 0  Clinical 24  Work 0  Credit 8

This course provides continued participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take CVS-160
Minimum State Corequisites: None

CVS-162 CVS Clinical Education III
Class 0  Lab 0  Clinical 15  Work 0  Credit 5

This course provides continued participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take CVS-161
Minimum State Corequisites: None

CVS-163 Echo I
Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course covers cardiac anatomy and introduces cardiac scanning techniques. Topics include normal cardiac anatomy, Doppler physics, and 2-D and M-mode imaging. Upon completion, students should be able to perform 2-D and M-mode studies.

Minimum State Prerequisites: None
Minimum State Corequisites: None

CVS-164 Echo II
Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course is a continuation of CVS 163 with continued study of 2-D and M-mode imaging. Emphasis is placed on continuous wave, pulsed wave, color, and power Doppler imaging of normal and abnormal cardiac conditions. Upon completion, students should be able to perform and recognize normal and abnormal cardiac studies.

Minimum State Prerequisites: Take CVS-163
Minimum State Corequisites: None

CVS-260 CVS Clinical Education IV
Class 0  Lab 0  Clinical 24  Work 0  Credit 8

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take CVS-162
Minimum State Corequisites: None

CVS-261 CVS Clinical Education V
Class 0  Lab 0  Clinical 24  Work 0  Credit 8

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take CVS-260
Minimum State Corequisites: None
CVS-277 Cardiovascular Topics
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course provides an overview of cardiovascular topics in preparation for certification examinations. Emphasis is placed on registry preparation. Upon completion, students should be able to sit for the registry examinations.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DFT. Drafting

DFT-119 Basic CAD
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course introduces computer-aided drafting software for specific technologies to non-drafting majors. Emphasis is placed on understanding the software command structure and drafting standards for specific technical fields. Upon completion, students should be able to create and plot basic drawings.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DFT-170 Engineering Graphics
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DMA. Developmental Math

DMA-010 Operations With Integers
Class 0  Lab 0  Clinical 0  Work 0  Credit 1
This course provides a conceptual study of integers and integer operations. Topics include integers, absolute value, exponents, square roots, perimeter and area of basic geometric figures, Pythagorean theorem, and use of the correct order of operations. Upon completion, students should be able to demonstrate an understanding of pertinent concepts and principles and apply this knowledge in the evaluation of expressions.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DMA-020 Fractions and Decimals
Class 0  Lab 0  Clinical 0  Work 0  Credit 1
This course provides a conceptual study of the relationship between fractions and decimals and covers related problems. Topics include application of operations and solving contextual application problems, including determining the circumference and area of circles with the concept of pi. Upon completion, students should be able to demonstrate an understanding of the connections between fractions and decimals.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DMA-030 Proportion/Ratios/Rates/Percents
Class 0  Lab 0  Clinical 0  Work 0  Credit 1
This course provides a conceptual study of the problems that are represented by rates, ratios, percent, and proportions. Topics include rates, ratios, percent, proportion, conversion of English and metric units, and applications of the geometry of similar triangles. Upon completion, students should be able to use their understanding to solve conceptual application problems.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DMA-040 Expressions, Linear Equations, Linear Inequalities
Class 0  Lab 0  Clinical 0  Work 0  Credit 1
This course provides a conceptual study of problems involving linear expressions, equations, and inequalities. Emphasis is placed on solving contextual application problems. Upon completion, students should be able to distinguish between simplifying expressions and solving equations and apply this knowledge to problems involving linear expressions, equations, and inequalities.
Minimum State Prerequisites: None
Minimum State Corequisites: None

DMA-050 Graphs and Equations of Lines
Class 0  Lab 0  Clinical 0  Work 0  Credit 1
This course provides a conceptual study of problems involving graphic and algebraic representations of lines. Topics include slope, equations of lines, interpretation of basic graphs, and linear modeling. Upon completion, students should be able to solve contextual application problems and represent real-world situations as linear equations in two variables.
Minimum State Prerequisites: None
Minimum State Corequisites: None
**DRA. Drama/Theatre**

**DRA-111 Theatre Appreciation**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides a study of the art, craft, and business of the theatre. Emphasis is placed on the audience’s appreciation of the work of the playwright, director, actor, designer, producer, and critic. Upon completion, students should be able to demonstrate a vocabulary of theatre terms and to recognize the contributions of various theatre artists.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**DRA-112 Literature of the Theatre**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides a survey of dramatic works from the classical Greek through the present. Emphasis is placed on the language of drama, critical theory, and background as well as on play reading and analysis. Upon completion, students should be able to articulate, orally and in writing, their appreciation and understanding of dramatic works.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**DRA-122 Oral Interpretation**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the dramatistic study of literature through performance. Emphasis is placed on analysis and performance of poetry, drama, and prose fiction. Upon completion, students should be able to embody and discuss critically the speakers inherent in literature.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**DRA-145 Stage Make-Up**
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course covers the research, design, selection of materials, and application of stage make-up, prosthetics, wigs, and hairpieces. Emphasis is placed on the development of techniques, style, and presentation of the finished make-up. Upon completion, students should be able to create and apply make-up, prosthetics, and hairpieces.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**ECO. Economics**

**ECO-151 Survey of Economics**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**ECO-251 Principles of Microeconomics**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**ECO-252 Principles of Macroeconomics**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
EDU. Education

EDU-119 Introduction to Early Childhood Education
Class 4  Lab 0  Clinical 0  Work 0  Credit 4
This course introduces the foundations of early childhood education, the diverse educational settings for young children, professionalism and planning developmentally appropriate experiences for each child. Topics include theoretical foundations, national early learning standards, NC Foundations for Early Learning and Development, state regulations, program types, career options, professionalism, ethical conduct, quality inclusive environments, and curriculum responsive to the needs of each child/family. Upon completion, students should be able to design a career/professional development plan, appropriate environments, schedules, and activity plans.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-131 Child, Family, and Community
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers the development of partnerships between culturally, linguistically and ability diverse families, children, schools and communities through the use of evidence-based strategies. Emphasis is placed on developing skills and identifying benefits for establishing, supporting, and maintaining respectful, collaborative relationships between diverse families, programs/schools, and community agencies/resources reflective of the NAEYC Code of Ethical Conduct. Upon completion, students should be able to identify appropriate relationship building strategies between diverse families, children, schools, and communities and demonstrate a variety of communication skills including appropriate use of technology to support every child.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-144 Child Development I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course includes the theories of child development, observation and assessment, milestones, and factors that influence development, from conception through approximately 36 months. Emphasis is placed on knowledge, observation and assessment of developmental sequences in approaches to play/learning, emotional/social, health/physical, language/communication and cognitive domains. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain biological and environmental factors that impact development, and identify evidence-based strategies for enhancing development for children that are culturally, linguistically, and ability diverse.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-146 Child Guidance
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces evidence-based strategies to build nurturing relationships with each child by applying principles and practical techniques to facilitate developmentally appropriate guidance. Topics include designing responsive/supportive learning environments, cultural, linguistic and socio-economic influences on behavior, appropriate expectations, the importance of communication with children/families including using technology and the use of formative assessments in establishing intentional strategies for children with unique needs. Upon completion, students should be able to demonstrate direct/indirect strategies to encourage social skills, self-regulation, emotional expression and positive behaviors while recognizing the relationship between children's social, emotional and cognitive development.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-145 Child Development II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course includes the theories of child development, observation and assessment, milestones, and factors that influence development, from preschool through middle childhood. Emphasis is placed on knowledge, observation and assessment of developmental sequences in approaches to play/learning, emotional/social, health/physical, language/communication and cognitive domains. Upon completion, students should be able to compare/contrast typical/atypical developmental characteristics, explain biological and environmental factors that impact development, and identify evidence-based strategies for enhancing development for children that are culturally, linguistically, and ability diverse.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-151 Creative Activities
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces developmentally supportive creative learning environments with attention to divergent thinking, creative problem-solving, evidence-based teaching practices, and open-ended learning materials while applying NC Foundations for Early Learning and Development. Emphasis is placed on observation of process driven learning experiences in art, music, creative movement, dance, and dramatics for every young child age birth through eight, integrated through all domains and academic content. Upon completion, students should be able to examine, create, and adapt developmentally creative learning materials, experiences, and environments for children that are culturally, linguistically, and ability diverse.
Minimum State Prerequisites: None
Minimum State Corequisites: None
EDU-153 Health, Safety and Nutrition
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers promoting and maintaining the health and well-being of every child. Topics include health and nutritional guidelines, common childhood illnesses, maintaining safe and healthy learning environments, health benefits of active play, recognition and reporting of abuse/neglect, and state regulations. Upon completion, students should be able to apply knowledge of NC Foundations for Early Learning and Development for health, safety, nutritional needs and safe learning environments.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-162 Observation and Assessment in Early Childhood Education
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the research, benefits, goals, and ethical considerations associated with observation and formative assessment in early childhood education. Emphasis is placed on the implementation of multiple observation/assessment strategies including anecdotal records, event samples, rating scales, and portfolios to create appropriate learning experiences. Upon completion, students should be able to practice responsible assessment and effectively use tools to assess the child, teacher practices and indoor and outdoor environments to enhance programming; and explain the importance of assessment partnerships with families and other professionals.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-216 Foundations of Education
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the examination of the American educational systems and the teaching profession. Topics include the historical and philosophical influences on education, various perspectives on educational issues, and experiences in birth through grade 12 classrooms. Upon completion, students should be able to reflect on classroom observations, analyze the different educational approaches, including classical/traditional and progressive, and have knowledge of the various roles of educational systems at the federal, state and local level.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-221 Children With Exceptionalities
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers atypical patterns of child development, inclusive/diverse settings, evidenced-based educational/family plans, differentiated instruction, adaptive materials, and assistive technology. Emphasis is placed on the characteristics of exceptionalities and delays, early intervention/special education, transitions, observation, developmental screening, formative assessment of children, and collaborating with families and community partners. Upon completion, students should be able to recognize diverse abilities, describe the referral process, identify community resources, explain the importance of collaboration with families/professionals, and develop appropriate strategies/adaptations to support children in all environments with best practices as defined by laws, policies and the NC Foundations for Early Learning and Development.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-234 Infants, Toddlers, and Twos
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers the development of high-quality, individualized, responsive/engaging relationships and experiences for infants, toddlers, and twos. Emphasis is placed on typical and atypical child development, working with diverse families to provide positive, supportive, and engaging early learning activities and interactions through field experiences and the application of the NC Foundations for Early Learning and Development. Upon completion, students should be able to demonstrate responsive curriculum planning, respectful relationships and exposure to a variety of developmentally appropriate experiences/materials that support a foundation for healthy development and growth of culturally, linguistically and ability diverse children birth to 36 months.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-235 School-Age Development and Programs
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course includes developmentally appropriate practices in group settings for school-age children. Emphasis is placed on principles of development, environmental planning, and positive guidance techniques and program development. Upon completion, students should be able to discuss developmental principles for culturally, linguistically, and ability diverse children ages five to twelve and plan and implement developmentally appropriate programs and activities.
Minimum State Prerequisites: None
Minimum State Corequisites: None
EDU-250 Teacher Licensure Preparation
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course provides information and strategies necessary for transfer to a teacher licensure program at a senior institution. Topics include entry level teacher licensure exam preparation, performance based assessment systems, requirements for entry into teacher education programs, the process to become a licensed teacher in North Carolina, and professionalism including expectations within the field of education. Upon completion, students should be able to utilize educational terminology and demonstrate knowledge of teacher licensure processes including exam preparation, technology based portfolio assessment, and secondary admissions processes to the school of education at a senior institution.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-251 Exploration Activities
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course covers fundamental concepts in the content areas of science, technology, engineering, math and social studies through investigative experiences. Emphasis is placed on exploring fundamental concepts, developmentally appropriate scope and sequence, and teaching strategies to engage each child in the discovery approach. Upon completion, students should be able to understand major concepts in each content area and implement appropriate experiences for young children.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-259 Curriculum Planning
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course is designed to focus on using content knowledge to build developmentally effective approaches for culturally/linguistically/ability diverse young children. Topics include components of curriculum, a variety of curriculum models, authentic observation and assessment, and planning developmentally appropriate experiences aligned with the NC Foundations for Early Learning and Development. Upon completion, students should be able to understand, evaluate, and use curriculum to plan for individual/group needs.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-261 Early Childhood Administration I
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course introduces principles and practices essential to preparing and supporting child care administrators. Topics include program philosophy, policies and procedures, NC Child Care Law and Rules, business planning, personnel and fiscal management, and NAEYC Code of Ethical Conduct Supplement for Early Childhood Program Administration. Upon completion, students should be able to articulate a developmentally appropriate program philosophy, locate current state licensing regulations, analyze a business plan and examine comprehensive program policies and procedures.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-262 Early Childhood Administration II
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course focuses on advocacy/leadership, public relations/community outreach and program quality/evaluation for diverse early childhood programs. Topics include program evaluation/accreditation, involvement in early childhood professional organizations, leadership/mentoring, family, volunteer and community involvement and early childhood advocacy. Upon completion, students should be able to define and evaluate all components of early childhood programs, develop strategies for advocacy and integrate community into programs.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EDU-280 Language and Literacy Experiences
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course provides evidence-based strategies for enhancing language and literacy experiences that align with NC Foundations for Early Learning and Development. Topics include developmental sequences for children’s emergent receptive and expressive language, print concepts, appropriate observations/assessments, literacy enriched environments, quality selection of diverse literature, interactive media, and inclusive practices. Upon completion, students should be able to select, plan, implement and evaluate developmentally appropriate language and literacy experiences for children who are culturally, linguistically and ability diverse.
Minimum State Prerequisites: None
Minimum State Corequisites: None
EDU-284 Early Childhood Capstone Practicum

Class 1  Lab 9  Clinical 0  Work 0  Credit 4

This course is designed to allow students to demonstrate acquired skills in a three star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on designing, implementing and evaluating developmentally appropriate activities and environments for all children; supporting/engaging families; and modeling reflective and professional practices based on national and state guidelines. Upon completion, students should be able to apply NC Foundations for Early Learning and Development to demonstrate developmentally appropriate plans/assessments, appropriate guidance techniques and ethical/professional behaviors, including the use of appropriate technology, as indicated by assignments and onsite faculty assessments.

Minimum State Prerequisites: None
Minimum State Corequisites: None

EGR. Engineering

EGR-150 Intro to Engineering

Class 1  Lab 2  Clinical 0  Work 0  Credit 2

This course is an overview of the engineering profession. Topics include goal setting and career assessment, ethics, public safety, the engineering method and design process, written and oral communication, interpersonal skills and team building, and computer applications. Upon completion, students should be able to understand the engineering process, the engineering profession, and utilize college resources to meet their educational goals.

Minimum State Prerequisites: None
Minimum State Corequisites: None

EGR-212 Logic System Design I

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

This course provides an introduction to digital circuits and analysis. Topics include Boolean Algebra; mixed logic; design of combinational circuits; introduction to sequential systems; and MSI building blocks. Upon completion, students should be able to analyze and design digital circuits and systems.

Minimum State Prerequisites: None
Minimum State Corequisites: None

EGR-220 Engineering Statics

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

This course introduces the concepts of engineering based on forces in equilibrium. Topics include concentrated forces, distributed forces, forces due to friction, and inertia as they apply to machines, structures, and systems. Upon completion, students should be able to solve problems which require the ability to analyze systems of forces in static equilibrium.

Minimum State Prerequisites: Take PHY-251
Minimum State Corequisites: Take MAT-272

ELC. Electrical

ELC-111 Introduction to Electricity

Class 2  Lab 2  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

ELC-113 Residential Wiring

Class 2  Lab 6  Clinical 0  Work 0  Credit 4

This course introduces the care/usage of tools and materials used in residential electrical installations and the requirements of the National Electrical Code. Topics include NEC, electrical safety, and electrical print 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 residential electrical installations.

Minimum State Prerequisites: None
Minimum State Corequisites: None

ELC-117 Motors and Controls

Class 2  Lab 6  Clinical 0  Work 0  Credit 4

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

ELC-128 Introduction to Programmable Logic Controller

Class 2  Lab 3  Clinical 0  Work 0  Credit 3

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 understand basic PLC systems and create simple programs.

Minimum State Prerequisites: None
Minimum State Corequisites: None
ELC-131 Circuit Analysis I
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ELC-131A Circuit Analysis I Lab
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course provides laboratory assignments as applied to fundamental principles of DC/AC electricity. Emphasis is placed on measurements and evaluation of electrical components, devices and circuits. Upon completion, the students will gain hands-on experience by measuring voltage, current, and opposition to current flow utilizing various meters and test equipment.
Minimum State Prerequisites: None
Minimum State Corequisites: Take ELC-131

ELC-228 Programmable Logic Controllers Applications
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ELC-229 Applications Project
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course provides an individual and/or integrated team approach to a practical project as approved by the instructor. Topics include project selection and planning, implementation and testing, and a final presentation. Upon completion, students should be able to plan and implement an applications-oriented project.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ELN. Electronics

ELN-112 Diesel Electronics System
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
This course introduces electronic theory and applications as used in medium and heavy duty vehicles. Emphasis is placed on the basic function and operation of semiconductor and integrated circuits. Upon completion, students should be able to identify electronic components, explain their use and function, and use meters and flow charts to diagnose and repair systems.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ELN-113 Electronic Fuel Injection
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course covers the function of the various sensors used to provide feedback control to current model diesel engines. Emphasis is placed on the operation of ECM-controlled fuel injectors and testing using current industry methods. Upon completion, students should be able to obtain information from the electronic fuel system using current test programs, fault tree, and digital meters.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EMS. Emergency Medical Science

EMS-110 EMT
Class 6  Lab 6  Clinical 0  Work 0  Credit 8
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 knowledge and skills necessary to achieve North Carolina State or National Registry EMT certification.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EMS-122 EMS Clinical Practicum I
Class 0  Lab 0  Clinical 3  Work 0  Credit 1
This course provides the introductory hospital clinical experience for the paramedic student. Emphasis is placed on mastering fundamental paramedic skills. Upon completion, students should be able to demonstrate competence with fundamental paramedic level skills.
Minimum State Prerequisites: Take EMS-110
Minimum State Corequisites: Take EMS-130
EMS-125 EMS Instructor Methodology
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
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 EMS courses and meet the North Carolina EMS requirements for instructor methodology.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EMS-130 Pharmacology
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
This course introduces the fundamental principles of pharmacology and medication administration and is required for paramedic certification. Topics include medical terminology, pharmacological concepts, weights, measures, drug calculations, vascular access for fluids and medication administration and legislation. Upon completion, students should be able to accurately calculate drug dosages, properly administer medications, and demonstrate general knowledge of pharmacology.
Minimum State Prerequisites: Take EMS-110
Minimum State Corequisites: Take EMS-122

EMS-131 Advanced Airway Management
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course is designed to provide advanced airway management techniques and is required for 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.
Minimum State Prerequisites: Take EMS-110
Minimum State Corequisites: None

EMS-140 Rescue Scene Management
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course introduces rescue scene management. Topics include response to hazardous material conditions, 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

EMS-160 Cardiology I
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course introduces the study of cardiovascular emergencies and is required for paramedic certification. Topics include anatomy and physiology, pathophysiology, electrophysiology, and basic rhythm interpretation in the monitoring leads. Upon completion, students should be able to recognize and interpret basic rhythms.
Minimum State Prerequisites: Take EMS-110
Minimum State Corequisites: None

EMS-220 Cardiology II
Class 2  Lab 3  Clinical 0  Work 0  Credit 3
This course provides an in-depth study of cardiovascular emergencies and is required for paramedic certification. Topics include assessment and treatment of cardiac emergencies, application and interpretation of advanced electrocardiography utilizing the twelve-lead ECG, cardiac pharmacology, and patient care. Upon completion, students should be able to assess and treat patients utilizing American Heart Association guidelines.
Minimum State Prerequisites: Take All: EMS-122, EMS-130, and EMS-160
Minimum State Corequisites: None

EMS-221 EMS Clinical Practicum II
Class 0  Lab 0  Clinical 6  Work 0  Credit 2
This course provides clinical experiences in the hospital and/or field. Emphasis is placed on increasing the proficiency of students' skills and abilities in patient assessments and the delivery of care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care.
Minimum State Prerequisites: Take All: EMS-122 and EMS-130
Minimum State Corequisites: None

EMS-231 EMS Clinical Practicum III
Class 0  Lab 0  Clinical 9  Work 0  Credit 3
This course provides clinical experiences in the hospital and/or field. Emphasis is placed on enhancing the students' skills and abilities in providing advanced-level care. Upon completion, students should be able to demonstrate continued progress in advanced-level patient care.
Minimum State Prerequisites: Take All: EMS-130 and EMS-221
Minimum State Corequisites: None
**EMS-235 EMS Management**
Class 2   Lab 0   Clinical 0   Work 0   Credit 2

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**EMS-240 Patients With Special Challenges**
Class 1   Lab 2   Clinical 0   Work 0   Credit 2

This course includes concepts of crisis intervention and techniques of interacting with patients with special challenges and is required for paramedic certification. Topics include appropriate intervention and interaction for neglected, abused, terminally ill, chronically ill, technology assisted, bariatric, physically challenged, mentally challenged, or assaulted patients as well as behavioral emergencies. Upon completion, students should be able to recognize and manage the care of patients with special challenges.

Minimum State Prerequisites: Take All: EMS-122 and EMS-130
Minimum State Corequisites: None

**EMS-241 EMS Clinical Practicum IV**
Class 0   Lab 0   Clinical 12   Work 0   Credit 4

This course provides clinical experiences in the hospital and/or field. Emphasis is placed on mastering the skills/competencies required of the paramedic providing advanced-level care. Upon completion, students should be able to provide advanced-level patient care as an entry-level paramedic.

Minimum State Prerequisites: Take All: EMS-130 and EMS-231
Minimum State Corequisites: None

**EMS-250 Medical Emergencies**
Class 3   Lab 3   Clinical 0   Work 0   Credit 4

This course provides an in-depth study of medical conditions frequently encountered in the prehospital setting and is required for paramedic certification. Topics include appropriate interventions/treatments for disorders/diseases/injuries affecting the following systems: respiratory, neurological, abdominal/gastrointestinal, endocrine, genitourinary, musculoskeletal, and immunological as well as toxicology, infectious diseases and diseases of the eyes, ears, nose and throat. Upon completion, students should be able to recognize, assess and manage the care of frequently encountered medical conditions based upon initial patient assessment.

Minimum State Prerequisites: Take All: EMS-122 and EMS-130
Minimum State Corequisites: None

**EMS-260 Trauma Emergencies**
Class 1   Lab 3   Clinical 0   Work 0   Credit 2

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 an overview of thoracic, abdominal, genitourinary, orthopedic, neurological, and multi-system trauma, soft tissue trauma of the head, neck, and face as well as environmental emergencies. Upon completion, students should be able to recognize and manage trauma situations based upon patient assessment and should adhere to standards of care.

Minimum State Prerequisites: Take All: EMS-122 and EMS-130
Minimum State Corequisites: None

**EMS-270 Life Span Emergencies**
Class 2   Lab 3   Clinical 0   Work 0   Credit 3

This course covers medical/ethical/legal issues and the spectrum of age-specific emergencies from conception through death required for paramedic certification. 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.

Minimum State Prerequisites: Take All: EMS-122 and EMS-130
Minimum State Corequisites: None

**EMS-285 EMS Capstone**
Class 1   Lab 3   Clinical 0   Work 0   Credit 2

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.

Minimum State Prerequisites: Take All: EMS-220, EMS-250, and EMS-260
Minimum State Corequisites: None

**ENG. English**

**ENG-102 Applied Communications II**
Class 3   Lab 0   Clinical 0   Work 0   Credit 3

This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications.

Minimum State Prerequisites: None
Minimum State Corequisites: None
ENG-112 Writing and Research in the Disciplines

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

This course, the second in a series of two, introduces research techniques, documentation styles, and writing strategies. Emphasis is placed on analyzing information and ideas and incorporating research findings into documented writing and research projects. Upon completion, students should be able to evaluate and synthesize information from primary and secondary sources using documentation appropriate to various disciplines.

Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

ENG-113 Literature-Based Research

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

ENG-114 Professional Research & Reporting

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

ENG-125 Creative Writing I

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

ENG-131 Introduction to Literature

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State Corequisites: Take One: ENG-112, ENG-113, or ENG-114

ENG-231 American Literature I

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

This course covers selected works in American literature from its beginnings to 1865. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to analyze and interpret literary works in their historical and cultural contexts.

Minimum State Prerequisites: Take One: ENG-112, ENG 113, or ENG 114
Minimum State Corequisites: None

ENG-232 American Literature II

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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 analyze and interpret literary works in their historical and cultural contexts.

Minimum State Prerequisites: Take One: ENG-112, ENG-113, or ENG-114
Minimum State Corequisites: None

ENG-233 Major American Writers

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

This course provides an intensive study of the works of several major American authors. Emphasis is placed on American history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied.

Minimum State Prerequisites: Take One: ENG-112, or ENG-113, or ENG-114
Minimum State Corequisites: None

ENG-241 British Literature I

Class 3  Lab 0  Clinical 0  Work 0  Credit 3

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.

Minimum State Prerequisites: None
Minimum State 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

ENG-243 Major British Writers

This course provides an intensive study of the works of several major British authors. Emphasis is placed on British history, culture, and the literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied.

Minimum State Prerequisites: Take One: ENG-112, ENG-113, or ENG-114
Minimum State Corequisites: None

ENG-272 Southern Literature

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.

Minimum State Prerequisites: Take One: ENG-112, ENG-113, or ENG-114
Minimum State Corequisites: None

ENG-274 Literature by Women

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.

Minimum State Prerequisites: Take One: ENG-112, ENG-113, or ENG-114
Minimum State Corequisites: None

ENG-275 Science Fiction

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, world view, and science fiction literature.

Minimum State Prerequisites: Take One: ENG-112, ENG-113, or ENG-114
Minimum State Corequisites: None

EPT-140 Emergency Management

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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

FIP-120 Introduction to Fire Protection

This course provides an overview of the development, methods, systems and regulations that apply to the fire protection field. Topics include history, evolution, statistics, suppression, organizations, careers, curriculum, and related subjects. Upon completion, students should be able to demonstrate a broad understanding of the fire protection field.

Minimum State Prerequisites: None
Minimum State Corequisites: None

FIP-124 Fire Prevention & Public Education

This course introduces fire prevention concepts as they relate to community and industrial operations referenced in NFPA standard 101. 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
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<td>FIP-228</td>
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FIP-240 Fire Service Supervision
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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 safety. Upon completion, students should be able to demonstrate an understanding of the roles and responsibilities of effective fire service supervision, meeting elements of NFPA 1021.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FIP-248 Fire Service Personnel Administration
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers the basics of setting up and administering the personnel functions of fire protection organizations referenced in NFPA standard 1021. Emphasis is placed on human resource planning, classification and job analysis, equal opportunity employment, affirmative action, recruitment, retention, development, performance evaluation, and assessment centers. Upon completion, students should be able to demonstrate knowledge of the personnel function as it relates to managing fire protection.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FIP-256 Municipal Public Relations
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is a general survey of municipal public relations and their effect on the governmental process referenced in NFPA standard 1035. 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 public relations functions of organizations which meet elements of NFPA 1021 for Fire Officer I and II.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FIP-260 Fire Protection Planning
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers the need for a comprehensive approach to fire protection planning referenced in NFPA standards 424 and 1620. Topics include the planning process, using an advisory committee, establishing goals and objectives, and techniques used to approve and implement a plan. Upon completion, students should be able to demonstrate a working knowledge of the concepts and principles of planning as it relates to fire protection.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FIP-276 Managing Fire Services
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides an overview of fire department operative services referenced in NFPA standard 1021. 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FRE. French

FRE-111 Elementary French I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FRE-112 Elementary French II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

FRE-211 Intermediate French I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
FRE-212 Intermediate French II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

GEL. Geology

GEL-111 Geology
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

GEO. Geography

GEO-110 Introduction to Geography
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces map reading skills and the physical and cultural features of different areas of the earth. Topics include spatial association, the importance of location, physical characteristics of the earth, and the impact of humans on the environment. Upon completion, students should be able to demonstrate an ability to read a map and describe physical and cultural features of different regions.
Minimum State Prerequisites: None
Minimum State Corequisites: None

GEO-111 World Regional Geography
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

GEO-130 General Physical Geography
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

GIS. Geographic Information Systems

GIS-111 Introduction to GIS
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course introduces the hardware and software components of a Geographic Information System and reviews GIS applications. Topics include data structures and basic functions, methods of data capture and sources of data, and the nature and characteristics of spatial data and objects. Upon completion, students should be able to identify GIS hardware components, typical operations, products/applications, and differences between database models and between raster and vector systems.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HEA. Health

HEA-110 Personal Health/Wellness
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET. Heavy Equipment Maintenance

HET-110 Diesel Engines
Class 3  Lab 9  Clinical 0  Work 0  Credit 6
This course introduces theory, design, terminology, and operating adjustments for diesel engines. Emphasis is laced on safety, theory of operation, inspection, measuring, and rebuilding diesel engines according to factory specifications. Upon completion, students should be able to measure, diagnose problems, and repair diesel engines.
Minimum State Prerequisites: None
Minimum State Corequisites: None
HET-114 Power Trains
Class 3   Lab 6   Clinical 0   Work 0   Credit 5
This course introduces power transmission devices. Topics include function and operation of gears, chains, clutches, planetary gears, drive lines, differentials, and transmissions. Upon completion, students should be able to identify, research specifications, repair, and adjust power train components.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-115 Electronic Engines
Class 2   Lab 3   Clinical 0   Work 0   Credit 3
This course introduces the principles of electronically controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturers' specifications. Upon completion, students should be able to diagnose, test, and calibrate electronically controlled diesel engines.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-119 Mechanical Transmissions
Class 2   Lab 2   Clinical 0   Work 0   Credit 3
This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-offs, sliding idler clutches, and friction clutches. Upon completion, students should be able to diagnose, inspect, and repair mechanical transmissions.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-125 Preventive Maintenance
Class 1   Lab 3   Clinical 0   Work 0   Credit 2
This course introduces preventive maintenance practices used on medium and heavy duty vehicles and rolling assemblies. Topics include preventive maintenance schedules, services, DOT rules and regulations, and road ability. Upon completion, students should be able to set up and follow a preventive maintenance schedule as directed by manufacturers.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-128 Medium/Heavy Duty Tune Up
Class 1   Lab 2   Clinical 0   Work 0   Credit 2
This course introduces tune-up and troubleshooting according to manufacturers’ specifications. Topics include troubleshooting engine systems, tune-up procedures, and use and care of special test tools and equipment. Upon completion, students should be able to troubleshoot, diagnose, and repair engines and components using appropriate diagnostic equipment.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-230 Air Brakes
Class 1   Lab 2   Clinical 0   Work 0   Credit 2
This course introduces the operation and design of air braking systems used on trucks. Topics include safety, governors, compressors, and supporting systems. Upon completion, students should be able to diagnose, disassemble, inspect, repair, and reassemble air brake systems.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-231 Medium/Heavy Duty Brake Systems
Class 1   Lab 3   Clinical 0   Work 0   Credit 2
This course covers the theory and repair of braking systems used in medium and heavy-duty vehicles. Topics include air, hydraulic, and ABS system diagnosis and repair. Upon completion, students should be able to troubleshoot, adjust, and repair braking systems on medium and heavy-duty vehicles.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HET-233 Suspension and Steering
Class 2   Lab 4   Clinical 0   Work 0   Credit 4
This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, students should be able to troubleshoot, adjust, and repair suspension and steering components on medium and heavy duty vehicles.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HIS. History
HIS-111 World Civilizations I
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
HIS-112 World Civilizations II  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-121 Western Civilization I  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-122 Western Civilization II  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-131 American History I  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-132 American History II  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-151 Hispanic Civilization  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
This course surveys the cultural history of Spain and its impact on the New World. Topics include Spanish and Latin American culture, literature, religion, and the arts. Upon completion, students should be able to analyze the cultural history of Spain and Latin America.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-221 African-American History  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-222 African-American History I  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
This course covers African American history through the Civil War period. Topics include African origins, the nature of slavery, African-American participation in the American Revolution, abolitionism, and the emergence of a distinct African-American culture. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early African-American history.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

HIS-223 African-American History II  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
This course covers African American history from the Civil War to the present. Topics include Reconstruction, the Jim Crow era, urbanization, the Harlem Renaissance, the Civil Rights movement, and the philosophies of major African-American leaders. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in African-American history since the Civil War.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None
**HIS-228 History of the South**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course covers the origin and development of the South as a distinct region of the United States. Emphasis is placed on Southern identity and its basis in cultural, social, economic, and political developments during the 19th and 20th centuries. Upon completion, students should be able to identify and analyze the major cultural, social, economic, and political developments in the South.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HIS-231 Recent American History**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is a study of American society from the post-Depression era to the present. Topics include World War II, the Cold War, social unrest, the Vietnam War, the Great Society, and current political trends. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in recent America.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HIS-236 North Carolina History**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HIS-260 History of Africa**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course surveys the history of Africa from pre-history to the present. Emphasis is placed on the evolution of social, political, economic, and governmental structures in Africa. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in Africa.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HIS-261 East Asian History**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course surveys the history of China and Japan from the development of civilization in Asia to the present. Emphasis is placed on the evaluation of social, political, economic, and governmental structures in China and Japan. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in east Asia.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HSC. Health Sciences**

**HSC-110 Orientation to Health Careers**
Class 1  Lab 0  Clinical 0  Work 0  Credit 1
This course is a survey of health care professions. Topics include professional duties and responsibilities, working environments, and career choices. Upon completion, students should be able to demonstrate an understanding of the health care professions and be prepared to make informed career choices.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HSC-140 Transcultural Healthcare**
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course is designed to introduce students to healthcare issues related to care of diverse populations. Topics include historical and theoretical foundations of transcultural healthcare, delivering services across the lifespan and caring for diverse persons in various healthcare settings. Upon completion, students should be able to provide culturally competent healthcare to individuals, families, groups, communities and institutions.
Minimum State Prerequisites: None
Minimum State Corequisites: None

**HUM. Humanities**

**HUM-110 Technology and Society**
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
HUM-115 Critical Thinking
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: Take DRE-098
Minimum State Corequisites: None

HUM-120 Cultural Studies
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HUM-121 The Nature of America
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course provides an interdisciplinary survey of the American cultural, social, and political experience. Emphasis is placed on the multicultural character of American society, distinctive qualities of various regions, and the American political system. Upon completion, students should be able to analyze significant cultural, social, and political aspects of American life.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HUM-160 Introduction to Film
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HYD. Hydraulics

HYD-110 Hydraulics/Pneumatics I
Class 2 Lab 3 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

HYD-112 Hydraulics-Medium and Heavy Duty
Class 1 Lab 2 Clinical 0 Work 0 Credit 2
This course introduces hydraulic theory and applications as applied to mobile equipment. Topics include component studies such as pumps, motors, valves, cylinders, filters, reservoirs, lines, and fittings. Upon completion, students should be able to identify, diagnose, test, and repair hydraulic systems using schematics and technical manuals.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ISC. Industrial Science

ISC-112 Industrial Safety
Class 2 Lab 0 Clinical 0 Work 0 Credit 2
This course introduces the principles of industrial safety. Emphasis is placed on industrial safety and OSHA regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ISC-121 Environmental Health & Safety
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course covers workplace environmental, health, and safety concepts. Emphasis is placed on managing the implementation and enforcement of environmental health and safety regulations and on preventing accidents, injuries, and illnesses. Upon completion, students should be able to demonstrate an understanding of basic concepts of environmental health and safety.
Minimum State Prerequisites: None
Minimum State Corequisites: None
ISC-278 cGMP Quality Systems
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course focuses on the development, implementation, and ongoing maintenance of a quality system in a cGMP environment. Topics include the cGMP standard, components of cGMP quality systems, quality function roles and training, development of documentation such as SOPs, and system review procedures. Upon completion, students should be able to identify the components of a quality system and develop a quality system manual utilizing the cGMP standard.
Minimum State Prerequisites: None
Minimum State Corequisites: None

ISC-280 Validation Fundamentals
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course covers the fundamental concepts of components of a validation program in a cGMP environment. Emphasis is placed on FDA requirements concerning validation, types of validation, documentation, procedures, and the QA role. Upon completion, students should be able to discuss the purpose of validation, identify the steps in the validation process, and effectively utilize sample documentation.
Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX. Legal Education

LEX-110 Intro to Paralegal Study
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
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, students should be able to explain the role of a paralegal and identify the skills, knowledge, and ethics required of paralegals.
Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-120 Legal Research/Writing I
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-121 Legal Research/Writing II
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take LEX-120
Minimum State Corequisites: None

LEX-130 Civil Injuries
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-140 Civil Litigation I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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 pre-litigation matters and preparation of pleadings and motions.
Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-141 Civil Litigation II
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take LEX-140
Minimum State Corequisites: None
LEX-150 Commercial Law I
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-160 Criminal Law & Procedure
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-210 Real Property I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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 deeds, requirements for recording, and procedures to enforce rights to real property.

Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-214 Investigation and Trial Preparation
Class 1  Lab 4  Clinical 0  Work 0  Credit 3
This course introduces the fundamentals of investigation. Topics include compiling/assembling data for cases; investigative planning/information gathering techniques; locating/interviewing witnesses; collection/preserving/evaluating sufficiency/admissibility of evidence; preparation of reports; and evidence presentation at depositions/court proceeding. Upon completion, students should be able to plan/use investigative checklists, understand/demonstrate investigative techniques, prepare reports, and enhance verbal and interpersonal communications skills and interviewing techniques.

Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-240 Family Law
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-250 Wills, Estates, & Trusts
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

LEX-280 Ethics & Professionalism
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course reinforces legal ethics and the role of the paralegal in a professional work environment. Topics include a review of ethics, employment opportunities, and search techniques; paralegal certification and other related topics. Upon completion, students should be able to understand the paralegal’s role in the ethical practice of law.

Minimum State Prerequisites: None
Minimum State Corequisites: None

MAC. Machining
MAC-112 Machining Technology II
Class 2  Lab 12  Clinical 0  Work 0  Credit 6
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
MAC-121 Introduction to CNC
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAC-122 CNC Turning
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None Take MAC-121;
Minimum State Corequisites: None

MAC-124 CNC Milling
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course introduces the manual programming, setup, and operation of CNC machining 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 machining centers.
Minimum State Prerequisites: None Take MAC-121;
Minimum State Corequisites: None

MAC-141 Machining Applications I
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
This course provides an introduction to a variety of material-working processes that are common to the machining industry. Topics include safety, process-specific machining equipment, measurement devices, set-up and layout instruments, and common shop practices. Upon completion, students should be able to safely demonstrate basic machining operations, accurately measure components, and effectively use layout instruments.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAC-141A Machining Applications I Lab
Class 0  Lab 6  Clinical 0  Work 0  Credit 2
This course provides an introduction to a variety of material-working processes, in a laboratory setting, that are common to the machining industry. Topics include safety, process-specific machining equipment, measurement devices, set-up and layout instruments, and common shop practices. Upon completion, students should be able to safely demonstrate basic machining operations, accurately measure components, and effectively use layout instruments.
Minimum State Prerequisites: None Take MAC-141;
Minimum State Corequisites: None

MAC-151 Machining Calculations
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAC-152 Advanced Machining Calculations
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and their applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.
Minimum State Prerequisites: None Take MAC-151;
Minimum State Corequisites: None

MAC-171 Measure/Material and Safety
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course introduces precision measuring instruments, process control and adjustment, inspection, material handling and workplace safety. Topics include properly identifying and handling various measurement instruments and materials, process control, adjustment and improvement, personal protective equipment (PPE) and OSHA safety regulations. Upon completion, students should be able to safely demonstrate effective measurement techniques, identify and handle various materials, and explain safe industry practices.
Minimum State Prerequisites: None
Minimum State Corequisites: None
MAC-224 Advanced CNC Milling
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None Take MAC-124;
Minimum State Corequisites: None

MAC-233 Appl in CNC Machining Appl in CNC Machining
Class 2  Lab 12  Clinical 0  Work 0  Credit 6
This capstone course provides students the opportunity to apply skills learned throughout the curriculum. Emphasis is placed on production of parts and assemblies using modern CNC machine tools. Upon completion, students should be able to manufacture complex parts using a variety of CNC machine tools.
Minimum State Prerequisites: None Take MAC-112(S22988) MAC-122 MAC-224(S23000) MEC-231(S20658);
Minimum State Corequisites: None

MAC-241 Jigs & Fixtures I
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
This course introduces the application and use of jigs and fixtures. Emphasis is placed on design and manufacture of simple jigs and fixtures. Upon completion, students should be able to design and build simple jigs and fixtures.
Minimum State Prerequisites: Take MAC-112
Minimum State Corequisites: None

MAC-247 Production Tooling
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course provides advanced study in tooling currently utilized in the production of metal parts. Emphasis is placed on the proper use of tooling used on CNC and other production machine tools. Upon completion, students should be able to choose proper tool grades based on manufacturing requirements and troubleshoot carbide tooling problems.
Minimum State Prerequisites: None Take MAC-111;
Minimum State Corequisites: None

MAM. Mammography

MAM-101 Mammography Procedures and Image Analysis
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
This course provides the fundamentals of mammography, including positioning, patient care, and image analysis. Topics include breast anatomy/physiology, pathology and treatment of breast disease, patient preparation/education, mammographic procedures, and interventional procedures. Upon completion, students should be able to demonstrate competence in these areas.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAM-102 Mammography Instrumentation and Quality Assurance
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is a comprehensive study of physics, instrumentation, quality assurance, and quality control for digital mammography imaging systems. Topics include system components, imaging principles, and guidelines for selecting exposure factors. Upon completion, students should be able to demonstrate an understanding of mammographic equipment, quality assurance, and quality control.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAM-103 Digital Mammography
Class 1  Lab 0  Clinical 0  Work 0  Credit 1
This course is a comprehensive study of digital mammography. Topics include producing digital mammograms, understanding image processing, display, archive, and communication techniques, and determining proper image quality, radiation dose, and quality control procedures. Upon completion, students should be able to demonstrate the concepts of digital imaging, the process to produce digital mammograms, and the establishment of QC procedures.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAM-104 Digital Breast Tomosynthesis
Class 1  Lab 0  Clinical 0  Work 0  Credit 1
This course is a comprehensive study of digital breast tomosynthesis (DBT). Topics include the technology of DBT, application of DBT in the clinic setting, digital detector technology, the role of DBT in detecting breast cancer, and performing quality control procedures. Upon completion, students should be able to demonstrate the concepts of digital breast tomosynthesis, understand the application and role of DBT in the clinic setting, and perform quality control procedures.
Minimum State Prerequisites: None
Minimum State Corequisites: None
MAM-105 Mammography Clinical Education
Class 0  Lab 0  Clinical 15  Work 0  Credit 5
This course provides the opportunity to apply knowledge gained from classroom instruction to the mammography clinical setting. Emphasis is placed on patient care and positioning, mammographic procedures, interventional/special examinations, image analysis, and quality control testing. Upon completion, students should be able to demonstrate successful completion of clinical objectives.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAM-109 Mammography Capstone
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides an overview of mammographic topics as practiced in the didactic and clinical settings. Emphasis is placed on critical thinking and integration of didactic and clinical components. Upon completion, students should be able to demonstrate the comprehensive knowledge required of an entry-level mammographer.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAT. Mathematics

MAT-110 Mathematical Measurement and Literacy
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course provides an activity-based approach that develops measurement skills and mathematical literacy using technology to solve problems for non-math intensive programs. Topics include unit conversions and estimation within a variety of measurement systems; ratio and proportion; basic geometric concepts; financial literacy; and statistics including measures of central tendency, dispersion, and charting of data. Upon completion, students should be able to demonstrate the use of mathematics and technology to solve practical problems, and to analyze and communicate results.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAT-121 Algebra/Trigonometry I
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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 the properties of plane and solid geometry, area and volume, and basic proportion applications; simplification, evaluation, and solving of algebraic equations and inequalities and radical functions; complex numbers; right triangle trigonometry; and systems of equations. Upon completion, students will be able to demonstrate the ability to use mathematics and technology for problem-solving, analyzing and communicating results.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAT-143 Quantitative Literacy
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course is designed to engage students in complex and realistic situations involving the mathematical phenomena of quantity, change and relationship, and uncertainty through project- and activity-based assessment. Emphasis is placed on authentic contexts which will introduce the concepts of numeracy, proportional reasoning, dimensional analysis, rates of growth, personal finance, consumer statistics, practical probabilities, and mathematics for citizenship. Upon completion, students should be able to utilize quantitative information as consumers and to make personal, professional, and civic decisions by decoding, interpreting, using, and communicating quantitative information found in modern media and encountered in everyday life.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAT-152 Statistical Methods I
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
This course provides a project-based approach to introductory statistics with an emphasis on using real-world data and statistical literacy. Topics include descriptive statistics, correlation and regression, basic probability, discrete and continuous probability distributions, confidence intervals and hypothesis testing. Upon completion, students should be able to use appropriate technology to describe important characteristics of a data set, draw inferences about a population from sample data, and interpret and communicate results.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MAT-171 Precalculus Algebra
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
This course is designed to develop topics which are fundamental to the study of Calculus. Emphasis is placed on solving equations and inequalities, solving systems of equations and inequalities, and analysis of functions (absolute value, radical, polynomial, rational, exponential, and logarithmic) in multiple representations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to algebra-related problems with and without technology.
Minimum State Prerequisites: None
Minimum State Corequisites: None
**MAT-172 Precalculus Trigonometry**

Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course is designed to develop an understanding of topics which are fundamental to the study of Calculus. Emphasis is placed on the analysis of trigonometric functions in multiple representations, right and oblique triangles, vectors, polar coordinates, conic sections, and parametric equations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to trigonometry-related problems with and without technology.

Minimum State Prerequisites: Take MAT-171
Minimum State Corequisites: None

**MAT-263 Brief Calculus**

Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course is designed to introduce concepts of differentiation and integration and their applications to solving problems. Topics include 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.

Minimum State Prerequisites: Take MAT-171
Minimum State Corequisites: None

**MAT-271 Calculus I**

Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course is designed to develop the topics of differential and integral calculus. Emphasis is placed on limits, continuity, derivatives and integrals of algebraic and transcendental functions of one variable. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to derivative-related problems with and without technology.

Minimum State Prerequisites: Take: MAT-172
Minimum State Corequisites: None

**MAT-272 Calculus II**

Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course is designed to develop advanced topics of differential and integral calculus. Emphasis is placed on the 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 select and use appropriate models and techniques for finding solutions to integral-related problems with and without technology.

Minimum State Prerequisites: Take MAT-271
Minimum State Corequisites: None

**MAT-273 Calculus III**

Class 3  Lab 2  Clinical 0  Work 0  Credit 4

This course is designed to develop the topics of multivariate calculus. Emphasis is placed on multivariate functions, partial derivatives, multiple integration, solid analytical geometry, vector valued functions, and line and surface integrals. Upon completion, students should be able to select and use appropriate models and techniques for finding the solution to multivariate-related problems with and without technology.

Minimum State Prerequisites: Take MAT-272
Minimum State Corequisites: None

**MAT-280 Linear Algebra**

Class 2  Lab 2  Clinical 0  Work 0  Credit 3

This course provides an introduction to linear algebra topics. Emphasis is placed on the development of abstract concepts and applications for vectors, systems of equations, matrices, determinants, vector spaces, multi-dimensional linear transformations, eigenvectors, eigenvalues, diagonalization and orthogonality. Upon completion, students should be able to demonstrate understanding of the theoretical concepts and select and use appropriate models and techniques for finding solutions to linear algebra-related problems with and without technology.

Minimum State Prerequisites: Take MAT-271
Minimum State Corequisites: None

**MAT-285 Differential Equations**

Class 2  Lab 2  Clinical 0  Work 0  Credit 3

This course provides an introduction to topics involving ordinary differential equations. Emphasis is placed on the development of abstract concepts and applications for first-order and linear higher-order differential equations, systems of differential equations, numerical methods, series solutions, eigenvalues and eigenvectors, and Laplace transforms. Upon completion, students should be able to demonstrate understanding of the theoretical concepts and select and use appropriate models and techniques for finding solutions to differential equations-related problems with and without technology.

Minimum State Prerequisites: Take MAT-272
Minimum State Corequisites: None

**MEC. Mechanical**

**MEC-231 Computer-Aided Manufacturing I**

Class 1  Lab 4  Clinical 0  Work 0  Credit 3

This course introduces computer-aided design/manufacturing (CAD/CAM) applications and concepts. Topics include software, programming, data transfer and verification, and equipment setup. Upon completion, students should be able to produce parts using CAD/CAM applications.

Minimum State Prerequisites: None Take DFT-119;
Minimum State Corequisites: None
MEC-232 Computer-Aided Manufacturing II  
Class 1   Lab 4   Clinical 0   Work 0   Credit 3
This course provides an in-depth study of CAM applications and concepts. Emphasis is placed on the manufacturing of complex parts using computer-aided manufacturing software. Upon completion, students should be able to manufacture complex parts using CAM software.  
Minimum State Prerequisites: Take MEC-231  
Minimum State Corequisites: None

MED. Medical Assisting

MED-110 Orientation to Medical Assisting  
Class 1   Lab 0   Clinical 0   Work 0   Credit 1
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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

MED-118 Medical Law and Ethics  
Class 2   Lab 0   Clinical 0   Work 0   Credit 2
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 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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

MED-120 Survey of Medical Terminology  
Class 2   Lab 0   Clinical 0   Work 0   Credit 2
This course introduces the vocabulary, abbreviations, and symbols used in the language of medicine. Emphasis is placed on building medical terms using prefixes, suffixes, and word roots. Upon completion, students should be able to pronounce, spell, and define accepted medical terms.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

MED-121 Medical Terminology I  
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
This course introduces prefixes, suffixes, and word roots used in the language of medicine. 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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

MED-122 Medical Terminology II  
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
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.  
Minimum State Prerequisites: Take MED-121  
Minimum State Corequisites: None

MED-130 Administrative Office Procedures I  
Class 1   Lab 2   Clinical 0   Work 0   Credit 2
This course introduces 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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

MED-131 Administrative Office Procedures II  
Class 1   Lab 2   Clinical 0   Work 0   Credit 2
This course 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.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None
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<td>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, vital signs, and medical emergencies. Upon completion, students should be able to demonstrate competence in exam room procedures.</td>
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<td>This course provides instruction in basic lab techniques used by the medical assistant. Topics include lab safety, quality control, collecting 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.</td>
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<td>This course provides the basic knowledge and skills necessary to perform infant, child, and adult CPR and to manage foreign body airway obstruction. Emphasis is placed on triage, assessment, and proper management of emergency care. Upon completion, students should be able to perform the infant, child, and adult CPR.</td>
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<td>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.</td>
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<td>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 competence in selected exam room procedures.</td>
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<td>This course provides the opportunity to apply clinical, laboratory, and administrative skills in a medical facility. Emphasis is placed on enhancing competence in clinical and administrative skills necessary for comprehensive patient care and strengthening professional communications and interactions. Upon completion, students should be able to function as an entry-level health care professional.</td>
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<td>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 demonstrate courteous and diplomatic behavior when solving problems in the medical facility.</td>
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<td>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 able to demonstrate competence in the areas covered on the national certification examination for medical assistants.</td>
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<td>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 test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions.</td>
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MED-272 Drug Therapy
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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 a physician’s office.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MED-274 Diet Therapy/Nutrition
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the basic principles of nutrition as they relate to health and disease. Topics include basic nutrients, physiology, dietary deficiencies, weight management, and therapeutic nutrition in wellness and disease. Upon completion, students should be able to interpret clinical and dietary data and provide patient counseling and education.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MED-276 Patient Education
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course is designed to provide communication skills, basic education principles, and knowledge of available community resources and to apply this knowledge to the clinical setting. Emphasis is placed on identifying appropriate community resources, developing patient education materials, and perfecting written and oral communication skills. Upon completion, students should be able to instruct, communicate effectively, and act as a liaison between the patient and community agencies.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MKT. Marketing and Retailing

MKT-120 Principles of Marketing
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MKT-223 Customer Service
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course stresses the importance of customer relations in the business world. Emphasis is placed on learning how to respond to complex customer requirements and to efficiently handle stressful situations. Upon completion, students should be able to demonstrate the ability to handle customer relations.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MKT-232 Social Media Marketing
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
This course is designed to build students’ social media marketing skills by utilizing projects that give students hands on experience implementing social media marketing strategies. Topics include integrating different social media technologies into a marketing plan, creating social media marketing campaigns, and applying appropriate social media tools. Upon completion, students should be able to use social media technologies to create and improve marketing efforts for businesses.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MNT. Maintenance

MNT-110 Introduction to Maintenance Procedures
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MNT-240 Indus Equip Troubleshoot
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
MTH. Therapeutic Massage

MTH-110 Fundamentals of Massage
Class 6 Lab 9 Clinical 3 Work 0 Credit 10
This course introduces concepts basic to the role of the massage therapist in a variety of clinical settings. 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MTH-120 Therapeutic Massage Applications
Class 6 Lab 9 Clinical 3 Work 0 Credit 10
This course provides an expanded knowledge and skill base for the massage therapist in a variety of clinical settings. 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.
Minimum State Prerequisites: Take MTH-110
Minimum State Corequisites: None

MTH-121 Clinical Supplement I
Class 0 Lab 0 Clinical 3 Work 0 Credit 1
This course is designed to introduce the student to a variety of clinical experiences. Emphasis is placed on applying the therapeutic massage process across the lifespan. Upon completion, students should be able to demonstrate delivery of massage techniques in a clinical setting.
Minimum State Prerequisites: None
Minimum State Corequisites: Take One: MTH-110, MTH-120, MTH-125, MTH-210 or MTH-220

MTH-125 Ethics of Massage
Class 2 Lab 0 Clinical 0 Work 0 Credit 2
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 of this course the student should be able to discuss issues relating to the practice of massage therapy, client/therapist relationships as well as ethical issues.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MTH-130 Therapeutic Massage Management
Class 2 Lab 0 Clinical 0 Work 0 Credit 2
This course introduces the basic responsibilities in the development and administration of a professional massage therapy practice. Emphasis is placed on identifying successful practice management methods such as selecting a business structure, negotiating a contract/lease, developing a business/marketing plan, designing a massage space, differentiating spa from clinical practice, management of client/financial records and physician referral. Upon completion, students should be able to demonstrate the knowledge and skills necessary to develop and manage a massage therapy practice.
Minimum State Prerequisites: TAKE MTH-110
Minimum State Corequisites: None

MTH-210 Advanced Skills of Massage
Class 4 Lab 9 Clinical 3 Work 0 Credit 8
This course provides knowledge and skills in diverse body work modalities in a variety of clinical settings. 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.
Minimum State Prerequisites: Take One: MTH-120 or MTH-121
Minimum State Corequisites: None

MTH-220 Outcome-Based Massage
Class 4 Lab 6 Clinical 3 Work 0 Credit 7
This course provides knowledge and skills in more complex body works modalities in a variety of clinical settings. Emphasis is placed on developing advanced skills in outcome-based Massage. Upon completion, students should be able to perform basic skills in techniques covered.
Minimum State Prerequisites: Take One: MTH-120, MTH-121, or MTH-221
Minimum State Corequisites: None

MTH-221 Clinical Supplement II
Class 0 Lab 0 Clinical 6 Work 0 Credit 2
This course is designed to be offered as an advanced clinical experience. Emphasis is placed on applying an advanced therapeutic massage process across the lifespan. Upon completion, students should be able to demonstrate delivery of massage at an advanced level in a clinical setting.
Minimum State Prerequisites: Take MTH-110
Minimum State Corequisites: Take One: MTH-120, MTH-125, MTH-210 or MTH-220
MUS. Music

MUS-110 Music Appreciation
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-111 Fundamentals of Music
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-112 Introduction to Jazz
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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 an understanding of the rudiments of American music.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-113 American Music
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-114 Non-Western Music
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides a basic survey of the music of the non-Western world. Emphasis is placed on non-traditional instruments, sources, and performing practices. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of non-Western music.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-121 Music Theory I
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-122 Music Theory II
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: Take MUS-121
Minimum State Corequisites: None

MUS-123 Music Composition
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course provides a study of elementary forms and traditional approaches to the organization of melody, harmony, rhythm, etc. in musical composition. Emphasis is placed on using musical notation to create new musical works.
Minimum State Prerequisites: Take One: MUS-111 or MUS-121
Minimum State Corequisites: None

MUS-131 Chorus I
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-132 Chorus II
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take MUS-131
Minimum State Corequisites: None
MUS-133 Band I
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course provides an opportunity for those who play a band instrument to gain experience playing in an ensemble. Emphasis is placed on band techniques and the study and performance of a variety of styles and periods of band literature. Upon completion, students should be able to demonstrate skills needed to participate in ensemble playing leading to performance.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-134 Band II
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course is a continuation of MUS 133. Emphasis is placed on band techniques and the study and performance of a variety of styles and periods of band literature. Upon completion, students should be able to demonstrate proficiency in the studied skills and repertoire through performance.
Minimum State Prerequisites: Take MUS-133
Minimum State Corequisites: None

MUS-141 Ensemble I
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-142 Ensemble II
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take MUS-141
Minimum State Corequisites: None

MUS-151 Class Music I
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-152 Class Music II
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take MUS-151
Minimum State Corequisites: None

MUS-161 Applied Music I
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-162 Applied Music II
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course is a continuation of MUS 161. 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.
Minimum State Prerequisites: Take MUS-161
Minimum State Corequisites: None

MUS-170 Business of Music
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

MUS-210 History of Rock Music
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
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<td>MUS-217</td>
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<td>MUS-221</td>
<td>Music Theory III</td>
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<td>Music Theory IV</td>
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<td>MUS-231</td>
<td>Chorus III</td>
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<td>2</td>
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<tr>
<td>MUS-232</td>
<td>Chorus IV</td>
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<td>MUS-233</td>
<td>Band III</td>
<td>1</td>
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<td>2</td>
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<td>MUS-234</td>
<td>Band IV</td>
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<td>2</td>
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<td>MUS-241</td>
<td>Ensemble III</td>
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<td>MUS-242</td>
<td>Ensemble IV</td>
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MUS-251 Class Music III
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take MUS-152
Minimum State Corequisites: None

MUS-252 Class Music IV
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take MUS-251
Minimum State Corequisites: None

MUS-261 Applied Music III
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course is a continuation of MUS 162. 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.
Minimum State Prerequisites: Take MUS-162
Minimum State Corequisites: None

MUS-262 Applied Music IV
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
This course is a continuation of MUS 261. 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.
Minimum State Prerequisites: Take MUS-261
Minimum State Corequisites: None

MUS-271 Music History I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take MUS-122
Minimum State Corequisites: None

MUS-272 Music History II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take MUS-271
Minimum State Corequisites: None

MUS-280 Music for the Elementary Classroom
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take MUS-110
Minimum State Corequisites: None

NAS. Nursing Assistant

NAS-101 Nurse Aide I
Class 3  Lab 4  Clinical 3  Work 0  Credit 6
This course includes basic nursing skills required to provide safe, competent personal care for individuals. Emphasis is placed on person-centered care, the aging process, communication, safety/emergencies, infection prevention, legal and ethical issues, vital signs, height and weight measurements, elimination, nutrition, basic restorative care/rehabilitation, dementia, mental health and end-of-life care. Upon completion, students should be able to demonstrate knowledge and skills and be eligible to test for listing on the North Carolina Nurse Aide I Registry.
Minimum State Prerequisites: None
Minimum State Corequisites: None

NAS-102 Nurse Aide II
Class 3  Lab 2  Clinical 6  Work 0  Credit 6
This course provides training in Nurse Aide II tasks. Emphasis is placed on the role of the Nurse Aide II, sterile technique and specific tasks such as urinary catheterization, wound care, respiratory procedures, ostomy care, peripheral IV assistive activities, and alternative feeding methods. Upon completion, students should be able to demonstrate knowledge and skills and safe performance of skills necessary to be eligible for listing on the North Carolina Nurse Aide II Registry.
Minimum State Prerequisites: None
Minimum State Corequisites: None
This course provides advanced training for the currently listed Nurse Aide I enhancing specific skills needed when working in the home care setting. Topics include person-centered care, nutrition, hydration, patient and personal safety, mental health, dementia, behavioral challenges, pain management, palliative care, and stress management. Upon completion, students are eligible for listing as a home care nurse aide with the North Carolina Nurse Aide Registry.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course is designed to enhance the knowledge of the Nurse Aide I providing care to the aging population. Emphasis is placed on the person-centered care, stress management, health promotion, dementia/challenging behaviors, mental health issues, and end-of-life/palliative care. Upon completion, students should be able to demonstrate knowledge and provide safe care for the aging population and are eligible to be listed on the North Carolina Geriatric Nurse Aide registry.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course introduces the architecture, structure, functions, components, and models of the Internet and computer networks. Topics include introduction to the principles of IP addressing and fundamentals of Ethernet concepts, media, and operations. Upon completion, students should be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

Minimum State Prerequisites: None
Minimum State 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.

Minimum State Prerequisites: None
Minimum State 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

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.

Minimum State Prerequisites: None
Minimum State 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
NOS-120 Linux/UNIX Single User
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

NOS-130 Windows Single User
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

NOS-220 Linux/Unix Administration I
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
This course introduces the Linux file system, group administration, and system hardware controls. Topics include installation, creation and maintaining file systems, NIS client and DHCP client configuration, NFS, SMB/Samba, Configure X, Gnome, KDE, basic memory, processes, and security. Upon completion, students should be able to perform system administration tasks including installation, configuring and attaching a new Linux workstation to an existing network.
Minimum State Prerequisites: Take NOS-120
Minimum State Corequisites: None

NOS-230 Windows Administration I
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
This course covers the installation and configuration of a Windows Server operating system. Emphasis is placed on the basic configuration of core network services, Active Directory and group policies. Upon completion, students should be able to install and configure a Windows Server operating system.
Minimum State Prerequisites: Take NOS-130
Minimum State Corequisites: None

NOS-231 Windows Administration II
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
This course covers the management of a Windows Server operating system. Emphasis is placed on the deployment of print services, network services, Active Directory, group policies and access controls. Upon completion, students should be able to deploy and manage services on a Windows Server operating system.
Minimum State Prerequisites: Take NOS-230
Minimum State Corequisites: None

NUR. Nursing

NUR-111 Introduction to Health Concepts
Class 4 Lab 6 Clinical 6 Work 0 Credit 8
This course introduces the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts within each domain including medication administration, assessment, nutrition, ethics, interdisciplinary teams, informatics, evidence-based practice, individual-centered care, and quality improvement. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.
Minimum State Prerequisites: None
Minimum State Corequisites: None

NUR-112 Health-Illness Concepts
Class 3 Lab 0 Clinical 6 Work 0 Credit 5
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of acid-base, metabolism, cellular regulation, oxygenation, infection, stress/coping, health-wellness-illness, communication, caring interventions, managing care, safety, quality improvement, and informatics. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.
Minimum State Prerequisites: Take NOS-130
Minimum State Corequisites: None

NUR-113 Family Health Concepts
Class 3 Lab 0 Clinical 6 Work 0 Credit 5
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of oxygenation, sexuality, reproduction, grief/loss, mood/affect, behaviors, development, family, health-wellness-illness, communication, caring interventions, managing care, safety, and advocacy. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.
Minimum State Prerequisites: Take NUR-111
Minimum State Corequisites: None
This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of cellular regulation, perfusion, inflammation, sensory perception, stress/coping, mood/affect, cognition, self, violence, health-wellness-illness, professional behaviors, caring interventions, and safety. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

Minimum State Prerequisites: Take NUR-111
Minimum State Corequisites: None

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. Upon completion, students should be able to compute dosages and administer medication safely.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of grief/loss, violence, health-wellness-illness, collaboration, managing care, safety, advocacy, legal issues, policy, healthcare systems, ethics, accountability, and evidence-based practice. Upon completion, students should be able to provide safe nursing care incorporating the concepts identified in this course.

Minimum State Prerequisites: Take NUR-111
Minimum State Corequisites: None

This course is designed to further develop the concepts within the three domains of the individual, healthcare, and nursing. Emphasis is placed on the concepts of fluid/electrolytes, metabolism, perfusion, mobility, stress/coping, violence, health-wellness-illness, professional behaviors, caring interventions, managing care, healthcare systems, and quality improvement. Upon completion, students should be able to demonstrate the knowledge, skills, and attitudes necessary to provide quality, individualized, entry level nursing care.

Minimum State Prerequisites: Take NUR-111
Minimum State Corequisites: Take All: NUR-112, NUR-113, NUR-114, NUR-211, and NUR-212

This course is designed to develop skills in technical writing and oral presentations with emphasis on business reports and professional presentations. Topics include documenting procedures, writing work instructions, information security, preparing business reports and developing and presenting proposals. Upon completion, students should be able to communicate effectively in a manufacturing or industry setting.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course is designed to develop keyboarding skills and introductory document formatting. Emphasis is placed on keyboarding techniques and formatting basic business documents. Upon completion, students should be able to create documents in an ever-changing workplace.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course is designed to introduce 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
OST-140 Internet Communication and Research
Class 1 Lab 2 Clinical 0 Work 0 Credit 2
This course provides a working knowledge of Internet usage and research for the modern office. Emphasis is placed on using search engines, email, Web sites, Web servers, communication services, and e-business to obtain information vital to the current office environment. Upon completion, students should be able to use the Internet to research any office topics required for employment.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-148 Medical Insurance and Billing
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course introduces fundamentals of medical insurance and billing. Emphasis is placed on the medical billing cycle to include third party payers, coding concepts, and form preparation. Upon completion, students should be able to explain the life cycle of and accurately complete a medical insurance claim.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-149 Medical Legal Issues
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-162 Executive Terminology
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
This course is designed to increase and improve proficiency in word usage. Topics include root words, prefixes, suffixes, homonyms, synonyms, and specialized vocabularies. Upon completion, students should be able to use acquired vocabulary skills in the global workplace.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-164 Office Editing
Class 3 Lab 0 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-184 Records Management
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-233 Office Publications Design
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: Take OST-136
Minimum State Corequisites: None

OST-236 Advanced Word Processing
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
This course develops proficiency in the utilization of advanced word processing functions. Emphasis is placed on advanced word processing features. Upon completion, students should be able to produce a variety of complex business documents.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-243 Med Office Simulation
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
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.
Minimum State Prerequisites: Take OST-148
Minimum State Corequisites: None

OST-247 Procedure Coding
Class 2 Lab 2 Clinical 0 Work 0 Credit 3
This course provides in-depth coverage of procedural coding. Emphasis is placed on CPT and HCPCS coding systems. Upon completion, students should be able to properly code procedures and services performed in a medical facility.
Minimum State Prerequisites: None
Minimum State Corequisites: None
OST-248 Diagnostic Coding
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course provides an in-depth study of diagnostic coding. Emphasis is placed on ICD coding system. Upon completion, students should be able to properly code diagnoses in a medical facility.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-280 Electronic Health Records
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course focuses on the use of electronic health records in medical documentation and patient management. Emphasis is placed on creating and maintaining patient medical information, scheduling patient appointments, documenting patient encounters, and billing/insurance claim processing. Upon completion, students should be able to perform the required software tasks following a patient visit from start to finish.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-284 Emerging Technologies
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

OST-289 Office Administration Capstone
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course is designed to be a capstone course for the office professional and provides a working knowledge of administrative office procedures. Emphasis is placed on written and oral communication skills, office software applications, office procedures, ethics, and professional development. Upon completion, students should be able to adapt in an office environment.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PBT-100 Phlebotomy Technology
Class 5  Lab 2  Clinical 0  Work 0  Credit 6
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PBT-101 Phlebotomy Practicum
Class 0  Lab 0  Clinical 9  Work 0  Credit 3
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 health care settings.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-110 Fit and Well for Life
Class 1  Lab 2  Clinical 0  Work 0  Credit 2
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-111 Physical Fitness I
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
PED-112 Physical Fitness II
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take PED-111
Minimum State Corequisites: None

PED-113 Aerobics I
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-114 Aerobics II
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: Take PED-113
Minimum State Corequisites: None

PED-117 Weight Training I
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-118 Weight Training II
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course covers advanced levels of weight training. Emphasis is placed on achieving 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.
Minimum State Prerequisites: Take PED-117
Minimum State Corequisites: None

PED-119 Circuit Training
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-120 Walking for Fitness
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course introduces fitness through walking. Emphasis is placed on stretching, conditioning exercises, proper clothing, fluid needs, and injury prevention. Upon completion, students should be able to participate in a recreational walking program.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-121 Walk, Jog, Run
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, students should be able to understand and appreciate the benefits derived from these activities.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-122 Yoga I
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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 procedures of yoga.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-128 Golf-Beginning
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None
PED-129 Golf-Intermediate
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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 demonstrate the knowledge and ability to play a recreational round of golf.
Minimum State Prerequisites: Take PED-128
Minimum State Corequisites: None

PED-130 Tennis-Beginning
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-131 Tennis-Intermediate
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: Take PED-130
Minimum State Corequisites: None

PED-132 Racquetball-Beginning
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
This course introduces the fundamentals of racquetball. Emphasis is placed on rules, fundamentals, and strategies of beginning racquetball. Upon completion, students should be able to play recreational racquetball.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-137 Badminton
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
This course covers the fundamentals of badminton. Emphasis is placed on the basics of serving, clears, drops, drives, smashes, and the rules and strategies of singles and doubles. Upon completion, students should be able to apply these skills in playing situations.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-138 Archery
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-139 Bowling-Beginning
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-142 Lifetime Sports
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-143 Volleyball-Beginning
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-144 Volleyball-Intermediate
Class 0 Lab 2 Clinical 0 Work 0 Credit 1
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.
Minimum State Prerequisites: Take PED-143
Minimum State Corequisites: None
PED-145 Basketball-Beginning
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-146 Basketball-Intermediate
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play basketball at a competitive level.
Minimum State Prerequisites: Take PED-145
Minimum State Corequisites: None

PED-147 Soccer
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course introduces the basics of soccer. Emphasis is placed on rules, strategies, and fundamental skills. Upon completion, students should be able to participate in recreational soccer.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-148 Softball
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, students should be able to participate in recreational softball.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-149 Flag Football
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course introduces the fundamentals and rules of flag football. Emphasis is placed on proper techniques and strategies for playing in game situations. Upon completion, students should be able to participate in recreational flag football.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-150 Baseball - Beginning
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course covers the fundamentals of baseball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, students should be able to participate in recreational baseball.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-151 Baseball/Intermediate
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course covers more advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, students should be able to play baseball at a competitive level.
Minimum State Prerequisites: Take PED-150
Minimum State Corequisites: None

PED-152 Swimming-Beginning
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course is designed for non-swimmers and beginners. Emphasis is placed on developing confidence in the water, learning water safety, acquiring skills in floating, and learning elementary strokes. Upon completion, students should be able to demonstrate safety skills and be able to tread water, back float, and use the crawl stroke for 20 yards.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-153 Swimming-Intermediate
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course is designed for those who have mastered basic swimming skills. Emphasis is placed on refining basic skills and learning new swim strokes. Upon completion, students should be able to demonstrate the four basic strokes, the scissors kick, the underwater swim, and other related skills.
Minimum State Prerequisites: Take PED-152
Minimum State Corequisites: None

PED-154 Swimming for Fitness
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course introduces lap swimming, aquacises, water activities, and games. Emphasis is placed on increasing cardiovascular efficiency through aquatic exercise. Upon completion, students should be able to develop an individualized aquatic fitness program.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PED-155 Water Aerobics
Class 0  Lab 3  Clinical 0  Work 0  Credit 1
This course introduces rhythmic aerobic activities performed in water. Emphasis is placed on increasing cardiovascular fitness levels, muscular strength, muscular endurance, and flexibility. Upon completion, students should be able to participate in an individually-paced exercise program.
Minimum State Prerequisites: None
Minimum State Corequisites: None
**PED-160 Canoeing-Basic**  
Class 0  Lab 2  Clinical 0  Work 0  Credit 1  
This course provides basic instruction for the beginning canoeist. Emphasis is placed on safe and correct handling of the canoe and rescue skills. Upon completion, students should be able to demonstrate basic canoeing, safe-handling, and self-rescue skills.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PED-170 Backpacking**  
Class 0  Lab 2  Clinical 0  Work 0  Credit 1  
This course covers the proper techniques for establishing a campsite, navigating in the wilderness, and planning for an overnight trip. Topics include planning for meals, proper use of maps and compass, and packing and dressing for extended periods in the outdoors. Upon completion, students should be able to identify quality backpacking equipment, identify the principles of no-trace camping, and successfully complete a backpacking experience.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PED-171 Nature Hiking**  
Class 0  Lab 2  Clinical 0  Work 0  Credit 1  
This course provides instruction on how to equip and care for oneself on the trail. Topics include clothing, hygiene, trail ethics, and necessary equipment. Upon completion, students should be able to successfully participate in nature trail hikes.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PED-172 Outdoor Living**  
Class 1  Lab 2  Clinical 0  Work 0  Credit 2  
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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PED-174 Wilderness Pursuits**  
Class 0  Lab 2  Clinical 0  Work 0  Credit 1  
This course covers the skills necessary to prepare for and participate in a wilderness trip. Emphasis is placed on planning, preparing, and participating in a wilderness pack trip. Upon completion, students should be able to safely participate in overnight wilderness pack trips.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PED-181 Snow Skiing-Beginning**  
Class 0  Lab 2  Clinical 0  Work 0  Credit 1  
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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PED-186 Dancing for Fitness**  
Class 0  Lab 2  Clinical 0  Work 0  Credit 1  
This course is designed to develop movement and recreational dance skills, safety, fitness, coordination, and techniques used to teach various groups. Emphasis is placed on participation and practice with adapting dances for ages and ability levels. Upon completion, students should be able to demonstrate knowledge of fitness through social, folk, and square dance participation and instruction.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PHI. Philosophy**

**PHI-210 History of Philosophy**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.

Minimum State Prerequisites: Take ENG-111  
Minimum State Corequisites: None

**PHI-215 Philosophical Issues**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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 critically evaluate the philosophical components of an issue.

Minimum State Prerequisites: Take ENG-111  
Minimum State Corequisites: None
PHI-220 Western Philosophy I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

PHI-230 Introduction to Logic
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

PHI-240 Introduction to Ethics
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on moral theories such as consequentialism, deontology, and virtue ethics. Upon completion, students should be able to apply various ethical theories to moral issues such as abortion, capital punishment, poverty, war, terrorism, the treatment of animals, and issues arising from new technologies.
Minimum State Prerequisites: Take ENG-111
Minimum State Corequisites: None

PHM. Pharmacy

PHM-110 Introduction to Pharmacy
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces pharmacy practice and the technician's role in a variety of pharmacy settings. Topics include medical terminology and abbreviations, drug delivery systems, law and ethics, prescription and medication orders, and the health care system. Upon completion, students should be able to explain the role of pharmacy technicians, read and interpret drug orders, describe quality assurance, and utilize pharmacy references.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-111 Pharmacy Practice I
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
This course provides instruction in the technical procedures for preparing and dispensing drugs in the hospital and retail settings under supervision of a registered pharmacist. Topics include drug packaging and labeling, out-patient dispensing, hospital dispensing procedures, controlled substance procedures, inventory control, and non-sterile compounding. Upon completion, students should be able to perform basic supervised dispensing techniques in a variety of pharmacy settings.
Minimum State Prerequisites: None
Minimum State Corequisites: Take All: PHM-110 and PHM-115

PHM-115 Pharmacy Calculations
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides an introduction to the metric, avoirdupois, and apothecary systems of measurement and the calculations used in pharmacy practice. Topics include ratio and proportion, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution and concentration, aliquots, specific gravity and density, and flow rates. Upon completion, students should be able to correctly perform calculations required to properly prepare a medication order.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-115A Pharmacy Calculations Lab
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course provides an opportunity to practice and perform calculations encountered in pharmacy practice. Emphasis is placed on ratio and proportion, dosage calculations, percentage, reduction/enlargement formulas, aliquots, flow rates, and specific gravity/density. Upon completion, students should be able to perform the calculations required to properly prepare a medication order.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-118 Sterile Products
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
This course provides an introduction to intravenous admixture preparation and other sterile products, including total parenteral nutrition and chemotherapy. Topics include aseptic techniques; facilities, equipment, and supplies utilized in admixture preparation; incompatibility and stability; laminar flow hoods; immunizations and irrigation solutions; and quality assurance. Upon completion, students should be able to describe and demonstrate the steps involved in preparation of intermittent and continuous infusions, total parenteral nutrition, and chemotherapy.
Minimum State Prerequisites: Take PHM-110 and PHM-111
Minimum State Corequisites: None
PHM-120 Pharmacology I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the study of the properties, effects, and therapeutic value of the primary agents in the major drug categories. Topics include nutritional products, blood modifiers, hormones, diuretics, cardiovascular agents, respiratory drugs, and gastrointestinal agents. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-125 Pharmacology II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides a continuation of the study of the properties, effects, and therapeutic value of the primary agents in the major drug categories. Topics include autonomic and central nervous system agents, anti-inflammatory agents, and anti-infective drugs. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names.
Minimum State Prerequisites: Take PHM-120
Minimum State Corequisites: None

PHM-136 Pharmacy Clinical
Class 0  Lab 0  Clinical 18  Work 0  Credit 6
This course provides an opportunity to work in pharmacy settings under a pharmacist’s supervision. Emphasis is placed on effective communication with personnel, developing proper employee attitude, and dispensing of medications. Upon completion, students should be able to demonstrate an understanding of pharmacy operations, utilize references, dispense medications, prepare patient charges, and efficiently operate computers.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-138 Pharmacy Clinical
Class 0  Lab 0  Clinical 24  Work 0  Credit 8
This course provides an opportunity to work in pharmacy settings under a pharmacist’s supervision. Emphasis is placed on effective communication with personnel, developing proper employee attitude, and dispensing of medications. Upon completion, students should be able to demonstrate an understanding of pharmacy operations, utilize references, dispense medications, prepare patient charges, and efficiently operate computers.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-140 Trends in Pharmacy
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course covers the major issues, trends, and concepts in contemporary pharmacy practice. Topics include professional ethics, continuing education, job placement, and the latest developments in pharmacy technician practice. Upon completion, students should be able to demonstrate a basic knowledge of the topics discussed.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-150 Hospital Pharmacy
Class 3  Lab 3  Clinical 0  Work 0  Credit 4
This course provides an in-depth study of hospital pharmacy practice. Topics include hospital organizational structure, committee functions, utilization of reference works, purchasing and inventory control, drug delivery systems, and intravenous admixture preparation. Upon completion, students should be able to explain hospital organization/committee functions, interpret and enter patient orders, fill unit-dose cassettes, and prepare intravenous admixtures.
Minimum State Prerequisites: None
Minimum State Corequisites: Take PHM-118

PHM-155 Community Pharmacy
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
This course covers the operational procedures relating to retail pharmacy. Emphasis is placed on a general knowledge of over-the-counter products, prescription processing, business/inventory management, and specialty patient services. Upon completion, students should be able to provide technical assistance and support to the retail pharmacist.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PHM-160 Pharm Dosage Forms
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is a study of pharmaceutical dosage forms and considerations in their manufacture. Topics include bioavailability, routes of administration, tablets, capsules, solutions, syrups, suspensions, elixirs, aerosols, transdermals, topicals, ophthalmics, otics, and other dosage forms. Upon completion, students should be able to describe the characteristics of the major dosage forms and explain how these characteristics affect the action of the drug.
Minimum State Prerequisites: None
Minimum State Corequisites: None
PHM-165 Pharmacy Prof Practice
Class 2  Lab 0  Clinical 0  Work 0  Credit 2
This course provides a general overview of all aspects of pharmacy technician practice. Emphasis is placed on pharmacy law, calculations, compounding, pharmacology, and pharmacy operations. Upon completion, students should be able to demonstrate competence in the areas required for the Pharmacy Technician Certification Examination.

Minimum State Prerequisites: None
Minimum State Corequisites: None

PHY-110 Conceptual Physics
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

PHY-110A Conceptual Physics Lab
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.

Minimum State Prerequisites: None
Minimum State Corequisites: Take PHY-110

PHY-151 College Physics I
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
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.

Minimum State Prerequisites: Take All: MAT-272 and PHY-251
Minimum State Corequisites: None

PHY-152 College Physics II
Class 3  Lab 2  Clinical 0  Work 0  Credit 4
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.

Minimum State Prerequisites: Take PHY-151
Minimum State Corequisites: None

POL-110 Introduction to Political Science
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.

Minimum State Prerequisites: None
Minimum State Corequisites: None
POL-120 American Government
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is a study of the origins, development, structure, and functions of American 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 process. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system.
Minimum State Prerequisites: None
Minimum State Corequisites: None

POL-130 State & Local Government
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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 intergovernmental politics and their effect on the community and the individual.
Minimum State Prerequisites: None
Minimum State Corequisites: None

POL-210 Comparative Government
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PSY. Psychology

PSY-118 Interpersonal Psychology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PSY-150 General Psychology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

PSY-237 Social Psychology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take One: PSY-150 or SOC-210
Minimum State Corequisites: None

PSY-239 Psychology of Personality
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take PSY-150
Minimum State Corequisites: None

PSY-241 Developmental Psychology
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take PSY-150
Minimum State Corequisites: None
**PSY-243 Child Psychology**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: Take PSY-150  
Minimum State Corequisites: None

**PSY-246 Adolescent Psychology**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: Take PSY-150  
Minimum State Corequisites: None

**PSY-263 Educational Psychology**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
This course examines the application of psychological theories and principles to the educational process and setting. Topics include learning and cognitive theories, achievement motivation, teaching and learning styles, teacher and learner roles, assessment, and developmental issues. Upon completion, students should be able to demonstrate an understanding of the application of psychological theory to educational practice.  
Minimum State Prerequisites: Take PSY-150  
Minimum State Corequisites: None

**PSY-281 Abnormal Psychology**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
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.  
Minimum State Prerequisites: Take PSY-150  
Minimum State Corequisites: None

**PTC. Pharmaceutical Technology**

**PTC-110 Industrial Environment**  
Class 3  Lab 0  Clinical 0  Work 0  Credit 3  
This course introduces the pharmaceutical industry, including a broad overview of work in this field. Emphasis is placed on good manufacturing practices (GMP), work conduct, company organization, job expectations, personal safety, hygiene, and company rules and regulations. Upon completion, students should be able to follow good manufacturing practice regulations and inspect a pharmaceutical manufacturing facility for compliance with GMP.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PTC-210 Pharmaceutical Industrial Processes**  
Class 3  Lab 2  Clinical 0  Work 0  Credit 4  
This course examines the manufacturing processes for selected pharmaceutical dosage forms. Emphasis is placed on manufacturing and testing of tablets, capsules, sustained release drugs, solutions, emulsions, suspensions, creams, ointments, aerosols, and sterile products. Upon completion, students should be able to demonstrate the processing steps and test procedures for these dosage forms.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

**PTC-228 Pharmaceutical Issues**  
Class 1  Lab 0  Clinical 0  Work 0  Credit 1  
This course provides a forum for discussion of current pharmaceutical topics. Emphasis is placed on events, news, regulations, and technology in pharmaceutical manufacturing. Upon completion, students should be able to demonstrate an understanding of the dynamic nature of the pharmaceutical industry.  
Minimum State Prerequisites: None  
Minimum State Corequisites: None

**RAD. Radiography**

**RAD-110 Rad Intro & Patient Care**  
Class 2  Lab 3  Clinical 0  Work 0  Credit 3  
This course provides an overview of the radiography profession and student responsibilities. Emphasis is placed on basic principles of patient care, radiation protection, technical factors, and medical terminology. Upon completion, students should be able to demonstrate basic skills in these areas.  
Minimum State Prerequisites: None  
Minimum State Corequisites: Take All: RAD-111 and RAD-151
**RAD-111 RAD Procedures I**

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This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the chest, abdomen, extremities, bony thorax and pelvis. Upon completion, students should be able to demonstrate competence in these areas.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**RAD-112 RAD Procedures II**

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</table>

This course provides the knowledge and skills necessary to perform standard radiographic procedures. Emphasis is placed on radiography of the skull, spine, and gastrointestinal, biliary, and urinary systems. Upon completion, students should be able to demonstrate competence in these areas.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**RAD-121 Image Production I**

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This course provides the basic principles of radiographic image production. Emphasis is placed on image production, x-ray equipment, receptor exposure, and basic imaging quality factors. Upon completion, students should be able to demonstrate an understanding of basic principles of radiographic image production.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**RAD-122 Image Production II**

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This course is designed to continue to develop the concepts and principles in the field of radiologic technology. Emphasis is placed on advanced digital principles and production. Upon completion, students should be able to demonstrate an understanding of advanced principles of digital imaging production.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**RAD-141 Radiation Safety**

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This course covers the principles of radiation protection and radiobiology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices. Upon completion, students should be able to demonstrate an understanding of the effects and uses of radiation in diagnostic radiology.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**RAD-151 RAD Clinical Ed I**

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This course introduces patient management and basic radiographic procedures in the clinical setting. Emphasis is placed on mastering positioning of the chest and extremities, manipulating equipment, and applying principles of ALARA. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

Minimum State Prerequisites: None
Minimum State Corequisites: Take All: RAD-110 and RAD-111

**RAD-161 RAD Clinical Ed II**

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This course provides additional experience in patient management and in more complex radiographic procedures. Emphasis is placed on mastering positioning of the spine, pelvis, head and neck, and thorax and adapting procedures to meet patient variations. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

Minimum State Prerequisites: Take All: RAD-110, RAD-111, and RAD-151
Minimum State Corequisites: Take All: RAD-112 and RAD-121

**RAD-171 RAD Clinical Ed III**

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</table>

This course provides experience in patient management specific to advanced radiographic procedures. Emphasis is placed on applying appropriate technical factors to all studies and transitioning to mastering positioning of advanced studies. Upon completion, students should be able to demonstrate successful completion of clinical objectives.

Minimum State Prerequisites: None
Minimum State Corequisites: None

**RAD-211 Radiographic Procedures III**

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<tr>
<th>Class</th>
<th>Lab</th>
<th>Clinical</th>
<th>Work</th>
<th>Credit</th>
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This course provides the knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis is placed on radiographic specialty procedures, advanced imaging, radiographic pathology and image analysis. Upon completion, students should be able to demonstrate an understanding of these areas.

Minimum State Prerequisites: None
Minimum State Corequisites: None
RAD-231 Image Production III
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course is designed to continue to develop the concepts and principles in the field of radiologic technology. Emphasis is placed on complex imaging production and principles, quality control and quality assurance in the imaging sciences. Upon completion, students should be able to demonstrate an understanding of advanced radiographic equipment and quality control programs.
Minimum State Prerequisites: None
Minimum State Corequisites: None

RAD-251 RAD Clinical Ed IV
Class 0  Lab 0  Clinical 21  Work 0  Credit 7
This course provides the opportunity to continue mastering all basic radiographic procedures and to attain experience in advanced areas. Emphasis is placed on equipment operation, pathological recognition, pediatric and geriatric variations, and a further awareness of radiation protection requirements. Upon completion, students should be able to demonstrate successful completion of clinical objectives.
Minimum State Prerequisites: None
Minimum State Corequisites: None

RAD-261 Radiographic Clinical Education V
Class 0  Lab 0  Clinical 21  Work 0  Credit 7
This course is designed to enhance expertise in all radiographic procedures, patient management, radiation protection, and image production and evaluation. Emphasis is placed on developing an autonomous approach to the diversity of clinical situations and successfully adapting to those procedures. Upon completion, students should be able to demonstrate successful completion of clinical objectives.
Minimum State Prerequisites: None
Minimum State Corequisites: None

RAD-271 Radiography Capstone
Class 2  Lab 3  Clinical 0  Work 0  Credit 3
This course provides an opportunity to exhibit problem-solving skills required for certification. Emphasis is placed on critical thinking and integration of didactic and clinical components. Upon completion, students should be able to demonstrate the knowledge required of an entry-level radiographer.
Minimum State Prerequisites: None
Minimum State Corequisites: None

REL. Religion

REL-110 World Religions
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take RED-090;
Minimum State Corequisites: None

REL-111 Eastern Religions
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

REL-112 Western Religions
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

REL-211 Introduction to Old Testament
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take RED-090;
Minimum State Corequisites: None

REL-212 Introduction to New Testament
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take RED-090;
Minimum State Corequisites: None
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<th>Clinical</th>
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<td>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. Minimum State Prerequisites: Take RED-090; Minimum State Corequisites: None</td>
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<td>This course introduces the concepts and issues related to securing information systems and the 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. Minimum State Prerequisites: None Minimum State Corequisites: None</td>
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<td>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. Minimum State Prerequisites: None Minimum State Corequisites: None</td>
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<td>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. Minimum State Prerequisites: Take ENG-090 RED-090; Minimum State Corequisites: None</td>
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<td>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. Minimum State Prerequisites: Take RED-090; Minimum State Corequisites: None</td>
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<td>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. Minimum State Prerequisites: None Minimum State Corequisites: None</td>
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<td>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. Minimum State Prerequisites: Take ENG-090 RED-090; Minimum State Corequisites: None</td>
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<td>This course provides an introduction to medical sonography. Topics include applications, sonographic terminology, history, patient care, ethics, and basic skills. Upon completion, students should be able to define professionalism and sonographic applications and perform basic patient care skills and preliminary scanning techniques. Minimum State Prerequisites: None Minimum State Corequisites: None</td>
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### SON-111 Sonographic Physics

**Class 3  Lab 3  Clinical 0  Work 0  Credit 4**

This course introduces ultrasound physical principles, bioeffects, and sonographic instrumentation. Topics include sound wave mechanics, transducers, sonographic equipment, Doppler physics, bioeffects, and safety. Upon completion, students should be able to demonstrate knowledge of sound wave mechanics, transducers, sonography equipment, the Doppler effect, bioeffects, and safety.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

### SON-112 Sonographic Terminology

**Class 1  Lab 0  Clinical 0  Work 0  Credit 1**

This course is designed to systematically guide the student to become familiar with medical language to prepare him/her to communicate as a medical professional. Topics include an introduction to the formation of medical terminology using word roots, prefixes and suffixes, relating these terms to body structure and function. Upon completion, students should effectively communicate disease and disorder terms, surgical terms, procedural terms, and other related medical terms.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

### SON-120 SON Clinical Ed I

**Class 0  Lab 0  Clinical 15  Work 0  Credit 5**

This course provides active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take SON-110  
Minimum State Corequisites: None

### SON-121 SON Clinical Ed II

**Class 0  Lab 0  Clinical 15  Work 0  Credit 5**

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take SON-120  
Minimum State Corequisites: None

### SON-130 Abdominal Sonography I

**Class 2  Lab 3  Clinical 0  Work 0  Credit 3**

This course introduces abdominal and small parts sonography. Emphasis is placed on the sonographic anatomy of the abdomen and small parts with correlated laboratory exercises. Upon completion, students should be able to recognize and acquire basic abdominal and small parts images.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

### SON-131 Abdominal Sonography II

**Class 1  Lab 3  Clinical 0  Work 0  Credit 2**

This course covers abdominal and small parts pathology recognizable on sonograms. Emphasis is placed on abnormal sonograms of the abdomen and small parts with correlated sonographic cases. Upon completion, students should be able to recognize abnormal pathological processes in the abdomen and on small parts sonographic examinations.

Minimum State Prerequisites: Take SON-130  
Minimum State Corequisites: None

### SON-140 Gynecological Sonography

**Class 2  Lab 0  Clinical 0  Work 0  Credit 2**

This course is designed to relate gynecological anatomy and pathology to sonography. Emphasis is placed on gynecological relational anatomy, endovaginal anatomy, and gynecological pathology. Upon completion, students should be able to recognize normal and abnormal gynecological sonograms.

Minimum State Prerequisites: Take SON-110  
Minimum State Corequisites: None

### SON-220 Son Clinical Ed III

**Class 0  Lab 0  Clinical 24  Work 0  Credit 8**

This course provides continued active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take SON-121  
Minimum State Corequisites: None

### SON-221 SON Clinical Ed IV

**Class 0  Lab 0  Clinical 24  Work 0  Credit 8**

This course provides continued active participation off campus in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating sonographic examinations. Upon completion, students should be able to image, process, and evaluate sonographic examinations.

Minimum State Prerequisites: Take SON-220  
Minimum State Corequisites: None

### SON-222 Selected Sonographic Clinical Education

**Class 0  Lab 0  Clinical 6  Work 0  Credit 2**

This course provides active participation in clinical sonography. Emphasis is placed on imaging, processing, and technically evaluating selected sonographic examinations. Upon completion, students should be able to image, process, and evaluate selected sonographic examinations.

Minimum State Prerequisites: None  
Minimum State Corequisites: Take SON-110
SON-225 Case Studies
Class 0   Lab 3   Clinical 0   Work 0   Credit 1
This course offers the opportunity to present interesting cases found during clinical education. Emphasis is placed on presentation methods which integrate patient history, laboratory results, and sonographic findings with reference to current literature. Upon completion, students should be able to correlate information necessary for complete presentation of case studies.
Minimum State Prerequisites: Take One: SON-110 or CVS-163
Minimum State Corequisites: None

SON-241 Obstetrical Sonography I
Class 2   Lab 0   Clinical 0   Work 0   Credit 2
This course covers normal obstetrical sonography techniques, the normal fetal environment, and abnormal first trimester pregnancy states. Topics include gestational dating, fetal anatomy, uterine environment, and first trimester complications. Upon completion, students should be able to produce gestational sonograms which document age, evaluate the uterine environment, and recognize first trimester complications.
Minimum State Prerequisites: Take SON-110
Minimum State Corequisites: None

SON-242 Obstetrical Sonography II
Class 2   Lab 0   Clinical 0   Work 0   Credit 2
This course covers second and third trimester obstetrical complications and fetal anomalies. Topics include abnormal fetal anatomy and physiology and complications in the uterine environment. Upon completion, students should be able to identify fetal anomalies, fetal distress states, and uterine pathologies.
Minimum State Prerequisites: Take SON-241
Minimum State Corequisites: None

SON-250 Vascular Sonography
Class 1   Lab 3   Clinical 0   Work 0   Credit 2
This course provides an in-depth study of the anatomy and pathology of the vascular system. Topics include peripheral arterial, peripheral venous, and cerebrovascular disease testing. Upon completion, students should be able to identify normal vascular anatomy and recognize pathology of the vascular system.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SON-271 Doppler Sonography Topics
Class 1   Lab 3   Clinical 0   Work 0   Credit 2
This course covers Doppler principles and instrumentation. Topics include basic Doppler principles, CW Doppler, pulsed-wave Doppler, color Doppler, and power Doppler. Upon completion, students be able to demonstrate knowledge of Doppler principles and instrumentation.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SON-273 Adv Vascular Sonography
Class 2   Lab 2   Clinical 0   Work 0   Credit 3
This course covers advanced scanning techniques and pathological states. Emphasis is placed on identifying, recognizing, and imaging abnormal peripheral arterial, peripheral venous, and cerebrovascular conditions. Upon completion, students should be able to identify and image abnormal vascular conditions.
Minimum State Prerequisites: Take SON-250
Minimum State Corequisites: None

SON-274 Neurosonology
Class 2   Lab 0   Clinical 0   Work 0   Credit 2
This course covers the applications of sonography in neurology. Topics include neurological problems as documented by sonography. Upon completion, students should be able to demonstrate the techniques for documenting neurological anatomy and pathological conditions as seen on sonograms.
Minimum State Prerequisites: Take SON-110
Minimum State Corequisites: None

SON-289 Sonographic Topics
Class 2   Lab 0   Clinical 0   Work 0   Credit 2
This course provides an overview of sonographic topics in preparation for certification examinations. Emphasis is placed on registry preparation. Upon completion, students should be able to demonstrate a comprehensive knowledge of sonography and be prepared for the registry examinations.
Minimum State Prerequisites: Take SON-110
Minimum State Corequisites: None

SPA, Spanish

SPA-111 Elementary Spanish I
Class 3   Lab 0   Clinical 0   Work 0   Credit 3
This course introduces the fundamental elements of the Spanish 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 Spanish and demonstrate cultural awareness.
Minimum State Prerequisites: None
Minimum State Corequisites: None
SPA-112 Elementary Spanish II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take SPA-111
Minimum State Corequisites: None

SPA-120 Spanish for the Workplace
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPA-141 Culture and Civilization
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPA-161 Cultural Immersion
Class 2  Lab 3  Clinical 0  Work 0  Credit 3
This course explores Hispanic culture through intensive study on campus and field experience in a host country or comparable area within the United States. 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.
Minimum State Prerequisites: Take SPA-111
Minimum State Corequisites: None

SPA-181 Spanish Lab 1
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPA-182 Spanish Lab 2
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
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 increasing proficiency to spoken and written Spanish and demonstrate cultural awareness.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPA-211 Intermediate Spanish I
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take SPA-112
Minimum State Corequisites: None

SPA-212 Intermediate Spanish II
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: Take SPA-211
Minimum State Corequisites: None
SPA-215 Spanish Phonetics/Structure
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is designed to improve the understanding of Spanish phonetics and the structure of the Spanish language. Topics include the structure of the Spanish language, phonology, morphology, and syntax. Upon completion, students should have an understanding of the phonetics and structure of the Spanish language and be able to contrast the structure of the Spanish and English languages.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPA-221 Spanish Conversation
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides an opportunity for intensive communication in spoken Spanish. Emphasis is placed on vocabulary acquisition and interactive communication through the discussion of media materials and authentic texts. Upon completion, students should be able to discuss selected topics, express ideas and opinions clearly, and engage in formal and informal conversations.
Minimum State Prerequisites: Take SPA-212
Minimum State Corequisites: None

SPA-231 Reading and Composition
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course provides an opportunity for intensive reading and composition in Spanish. Emphasis is placed on the use of literary and cultural materials to enhance and expand reading and writing skills. Upon completion, students should be able to demonstrate in writing an in-depth understanding of assigned readings.
Minimum State Prerequisites: Take SPA-212
Minimum State Corequisites: None

SPA-281 Spanish Lab 3
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course provides an opportunity to enhance the 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 through the use of various supplementary learning media and materials. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future.
Minimum State Prerequisites: Take SPA-182
Minimum State Corequisites: None

SPA-282 Spanish Lab 4
Class 0  Lab 2  Clinical 0  Work 0  Credit 1
This course provides an opportunity to enhance the review and expansion of the essential skills of the Spanish language. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts through the use of various supplementary learning media and materials. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication.
Minimum State Prerequisites: Take SPA-281
Minimum State Corequisites: None

SPI. Spanish Interpreter

SPI-113 Intro. to Spanish Inter.
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course introduces the field of interpreting, interpretation models, cognitive processes associated with interpretation, professional ethical standards, employment opportunities, and working conditions. Topics include specialized jargon, code of ethics, interpreter assessments/qualifications, and protocol associated with various settings. Upon completion, students should be able to explain the rationale for placement of interpreters and apply ethical standards to a variety of working situations.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPI-114 Ana. Skills Spanish Inter.
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is designed to improve cognitive processes associated with interpreting, listening, short-term memory, semantic equivalence, visual/auditory processing, thought organization and logic. Emphasis is placed on developing skills necessary to generate equivalent messages between Spanish and English. Upon completion, students should be able to consecutively interpret non-technical, interactive messages between Spanish and English.
Minimum State Prerequisites: None
Minimum State Corequisites: None

SPI-213 Review of Grammar
Class 3  Lab 0  Clinical 0  Work 0  Credit 3
This course is designed to review the common elements of Spanish grammar in oral and written form. Emphasis is placed on the fundamental grammatical concepts of the Spanish language. Upon completion, students should be able to demonstrate comprehension and correct usage of specified grammatical concepts in both oral and written form.
Minimum State Prerequisites: None
Minimum State Corequisites: None
This course is designed to improve the quality of Spanish to English and English to Spanish translation. Emphasis is placed on the practice of Spanish to English and English to Spanish translation in a variety of prose styles. Upon completion, students should be able to demonstrate the usage and understanding of the processes involved in translating.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course introduces skills of consecutive interpretation used by professional interpreters. Topics include memory development, note taking, sight translation and non-verbal communication. Upon completion, students should be able to apply consecutive interpretation techniques in a variety of role-playing situations and settings.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course is designed for students planning to specialize in medical interpreting in settings such as hospitals, physicians' offices and clinics. Emphasis is placed on the development of medical terminology vocabulary through active role-play. Upon completion, students should be able to apply medical interpretation techniques in a variety of medical situations.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course is designed to expose students to interpreting in areas such as social services, business and industry. Emphasis is placed on the development of social services, business and industry vocabulary through role-play. Upon completion, students should be able to consecutively interpret basic messages in a variety of social services, business and industry situations.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course covers workplace safety, hazardous materials, environmental regulations, hand tools, service information, basic concepts, vehicle systems, and common transportation industry terminology. Topics include familiarization with major vehicle systems, proper use of various hand and power tools, material safety data sheets, and personal protective equipment. Upon completion, students should be able to demonstrate appropriate safety procedures, identify and use basic shop tools, and describe government regulations regarding transportation repair facilities.

Minimum State Prerequisites: None
Minimum State 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.

Minimum State Prerequisites: None
Minimum State Corequisites: None

This course provides a lab that allows students to enhance their understanding of electrical components and circuits used in the transportation industry. Topics include inspection, diagnosis, and repair of electrical components and circuits using appropriate service information for specific transportation systems. Upon completion, students should be able to diagnose and service electrical components and circuits used in transportation systems.

Minimum State Prerequisites: None
Minimum State Corequisites: Take TRN-120

This course covers the theory of refrigeration and heating, electrical/electronic/pneumatic controls, and diagnosis and 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 diagnose and repair vehicle climate control systems.

Minimum State Prerequisites: None
Minimum State Corequisites: None
**TRN-140A Transportation Climate Control Lab**  
*Class 1  Lab 2  Clinical 0  Work 0  Credit 2*

This course provides experiences for enhancing student skills in the diagnosis and repair of transportation climate control systems. Emphasis is placed on reclaiming, recovery, recharging, leak detection, climate control components, diagnosis, air conditioning equipment, tools and safety. Upon completion, students should be able to describe the operation, diagnose, and safely service climate control systems using appropriate tools, equipment, and service information.

Minimum State Prerequisites: None  
Minimum State Corequisites: Take TRN-140

**TRN-170 Pc Skills for Transportation**  
*Class 1  Lab 2  Clinical 0  Work 0  Credit 2*

This course introduces students to personal computer literacy and Internet literacy with an emphasis on the transportation service industry. Topics include service information systems, management systems, computer-based systems, and PC-based diagnostic equipment. Upon completion, students should be able to access information pertaining to transportation technology and perform word processing.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**WBL. Work-Based Learning**

**WBL-111 Work-Based Learning I**  
*Class 0  Lab 0  Clinical 0  Work 10  Credit 1*

This course provides a work-based learning 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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**WBL-115 Work-Based Learning Seminar I**  
*Class 1  Lab 0  Clinical 0  Work 0  Credit 1*

This course description may be written by the individual colleges.

Minimum State Prerequisites: None  
Minimum State Corequisites: Take One: WBL-111, WBL-112, WBL-113 or WBL-114

**WLD. Welding**

**WLD-110 Cutting Processes**  
*Class 1  Lab 3  Clinical 0  Work 0  Credit 2*

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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**WLD-112 Basic Welding Processes**  
*Class 1  Lab 3  Clinical 0  Work 0  Credit 2*

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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**WLD-115 SMAW (Stick) Plate**  
*Class 2  Lab 9  Clinical 0  Work 0  Credit 5*

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.

Minimum State Prerequisites: None  
Minimum State Corequisites: None

**WLD-116 SMAW (stick) Plate/Pipe**  
*Class 1  Lab 9  Clinical 0  Work 0  Credit 4*

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.

Minimum State Prerequisites: Take WLD-115  
Minimum State Corequisites: None
WLD-121 GMAW (MIG) FCAW/Plate
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

WLD-131 GTAW (TIG) Plate
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

WLD-132 GTAW (TIG) Plate/Pipe
Class 1  Lab 6  Clinical 0  Work 0  Credit 3
This course is designed to enhance skills with the gas tungsten arc (TIG) welding process. Topics include setup, joint preparation, and electrode selection with emphasis on manipulative skills in all welding positions on plate and pipe. Upon completion, students should be able to perform GTAW welds with prescribed electrodes and filler materials on various joint geometry.
Minimum State Prerequisites: Take WLD-131
Minimum State Corequisites: None

WLD-141 Symbols and Specifications
Class 2  Lab 2  Clinical 0  Work 0  Credit 3
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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

WLD-151 Fabrication I
Class 2  Lab 6  Clinical 0  Work 0  Credit 4
This course introduces the basic principles of fabrication. Emphasis is placed on safety, measurement, layout techniques, cutting, joining 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.
Minimum State Prerequisites: None
Minimum State Corequisites: None

WLD-215 SMAW (stick) Pipe
Class 1  Lab 9  Clinical 0  Work 0  Credit 4
This course covers the knowledge and skills that apply to welding pipe. Topics include pipe positions, joint geometry, and preparation with emphasis placed on bead application, profile, and discontinuities. Upon completion, students should be able to perform SMAW welds to applicable codes on carbon steel pipe with prescribed electrodes in various positions.
Minimum State Prerequisites: Take One: WLD-115 or WLD-116
Minimum State Corequisites: None

WLD-251 Fabrication II
Class 1  Lab 6  Clinical 0  Work 0  Credit 3
This course covers advanced fabrication skills. Topics include advanced layout and assembly methods with emphasis on the safe and correct use of fabrication tools and equipment. Upon completion, students should be able to fabricate projects from working drawings.
Minimum State Prerequisites: Take WLD-151
Minimum State Corequisites: None

WLD-261 Certification Practices
Class 1  Lab 3  Clinical 0  Work 0  Credit 2
This course covers certification requirements for industrial welding processes. Topics include techniques and certification requirements for prequalified joint geometry. Upon completion, students should be able to perform welds on carbon steel plate and/or pipe according to applicable codes.
Minimum State Prerequisites: Take All: WLD-115, WLD-121, and WLD-131
Minimum State Corequisites: None