



# Course Descriptions



To enroll in college transfer courses except PED and HEA 112, students must meet the admission requirement in one of the three areas of reading, mathematics, or English.

The letters A, B, or C following a course number denote that these courses are offered in sequential parts. All parts must be completed to satisfy the course requirements.

Appearing in parenthesis after each course title are the semesters the course is most often scheduled. "Intermittently" means semester scheduling varies. Nash Community College reserves the right to alter semesters when courses are offered in accordance with curriculum sequences and need. Appearing opposite each course title are either three numerals which represent hours per week required for class, laboratory, and credit hours; or, four numerals which represent hours per week required for class, laboratory, clinical or work experience, and credit hours.

**ACA 115 Success and Study Skills (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course provides an orientation to the campus resources and academic skills necessary to achieve educational objectives. Emphasis is placed on an exploration of facilities and services, study skills, library skills, self-assessment, wellness, goal-setting, and critical thinking. Upon completion, students should be able to manage their learning experiences to successfully meet educational goals.

**ACA 122 College Transfer Success (Fall, Spring, Summer) 0 2 1**

Prerequisites: None

Corequisites: None

This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college 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. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course.

Competencies:

1. Develop a strategic plan for completing community college academic goals, including certificates, diplomas, and/or associate degrees.
2. Develop a strategic plan for transferring to a university and preparing for a new career.
3. Identify the rights and responsibilities of transfer students under the Comprehensive Articulation Agreement (CAA), including Universal General Education Transfer Component (UGETC) designated courses, the Transfer Assured Admissions Policy (TAAP), the CAA appeals process, and university tuition surcharge.
4. Evaluate learning strategies, including note-taking, test-taking, information

- processing, time management, and memorization techniques, and identify strategies for improvement.
5. Identify essential college resources, including financial aid, advising, registration, tutoring, library services, computer labs, and counseling services and recognize the importance of these resources on student success.
  6. Identify essential college policies and procedures, including academic integrity such as avoiding plagiarism; calculating a GPA, and maintaining satisfactory academic progress for financial aid eligibility and/or good academic standing.

**ACC 110 Ten-Key Skills (Spring) 0 2 1**

Prerequisites: None

Corequisites: None

This course is designed to enable mastery of the “touch system” on a ten-key device. Emphasis is placed on the “touch system” on a ten-key device. Upon completion, students should be able to use the “touch system” on a ten-key device in making computations necessary in accounting.

**ACC 120 Principles of Financial Accounting (Fall, Spring) 3 2 4**

Prerequisites: DMA 010, DMA 020 and DRE 097

Corequisites: None

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

**ACC 121 Principles of Managerial Accounting (Spring) 3 2 4**

Prerequisites: ACC 120

Corequisites: None

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. This course has been approved for transfer under the Comprehensive Articulation Agreement as a premajor and/or elective course requirement.

**ACC 131 Federal Income Taxes (Fall, Spring) 2 2 3**

Prerequisites: DRE 097

Corequisites: None

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 of 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.

**ACC 140 Payroll Accounting (Summer) 1 2 2**

Prerequisites: ACC 115 or ACC 120

Corequisites: None

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

**ACC 150 Accounting Software Applications (Summer) 1 2 2**

Prerequisites: ACC 115 or ACC 120

Corequisites: None

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 software package to solve accounting problems.

**ACC 180 Practices in Bookkeeping (Spring) 3 0 3**

Prerequisites: ACC 120

Corequisites: None

This course provides advanced instruction in bookkeeping and record-keeping functions. Emphasis is placed on mastering adjusting entries, correction of errors, depreciation, payroll, and inventory. Upon completion, students should be able to conduct all key bookkeeping functions for small businesses.

**ACC 220 Intermediate Accounting I (Fall) 3 2 4**

Prerequisites: ACC 120

Corequisites: None

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

**ACC 225 Cost Accounting (Fall) 3 0 3**

Prerequisites: ACC 121

Corequisites: None

This course introduces the nature and purposes of cost accounting as an information system for planning and control. Topics include direct materials, direct labor, factory overhead, process, job order, and standard cost systems. Upon completion, students should be able

to demonstrate an understanding of the principles involved and display an analytical problem-solving ability for the topics covered.

**ACC 240 Gov. and Not-for-Profit Accounting (Intermittently) 3 0 3**

Prerequisites: ACC 121

Corequisites: None

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

**ACC 269 Auditing and Assurance Services (Spring) 3 0 3**

Prerequisites: ACC 220

Corequisites: None

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

**AHR 110 Introduction to Refrigeration (Fall) 2 6 5**

Prerequisites: None

Corequisites: None

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

**AHR 112 Heating Technology (Spring) 2 4 4**

Prerequisites: None

Corequisites: None

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

**ANT 210 General Anthropology (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the physical, archaeological, linguistic, and ethnological fields of anthropology. Topics include human origins, genetic variations, archaeology, linguistics, primatology, and contemporary cultures. Upon completion, students should be able to demonstrate an understanding of the four major fields of anthropology. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**ANT 220 Cultural Anthropology (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the nature of human culture. Emphasis is placed on cultural theory, methods of fieldwork, and cross-cultural comparisons in the areas of ethnology, language, and the cultural past. Upon completion, students should be able to demonstrate an understanding of basic cultural processes and how cultural data are collected and analyzed. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**ARC 111 Introduction to Architectural Technology (Fall) 1 6 3**

Prerequisites: None

Corequisites: ARC 114

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

**ARC 111AB Introduction to Architectural Technology-AB (Fall) 1 3 2**

Prerequisites: None

Corequisites: ARC 114

The first of two parts of ARC 111.

**ARC 111BB Introduction to Architectural Technology-BB (Spring) 0 3 1**

Prerequisites: ARC 111AB

Corequisites: None

A continuation of ARC 111AB and final part of ARC 111.

**ARC 112 Construction Materials and Methods (Fall) 3 2 4**

Prerequisites: None

Corequisites: None

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

<b>ARC 112AB Construction Materials and Methods AB (Fall)</b>	<b>1</b>	<b>2</b>	<b>2</b>
Prerequisites: None			
Corequisites: None			
The first of two parts of ARC 112.			
<b>ARC 112BB Construction Materials and Methods BB (Spring)</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: ARC 112AB			
Corequisites: ARC 112			
A continuation of ARC 112AB and final part of ARC 112.			
<b>ARC 113 Residential Architectural Technology (Spring)</b>	<b>1</b>	<b>6</b>	<b>3</b>
Prerequisites: ARC 111			
Corequisites: ARC 112			
This course covers intermediate residential working drawings. Topics include residential plans, elevations, sections, details, schedules, and other related topics. Upon completion, students should be able to prepare a set of residential working drawings that is within accepted architectural standards.			
<b>ARC 113AB Residential Architectural Technology-AB (Spring)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: ARC 111			
Corequisites: ARC 112			
The first of two parts of ARC 113.			
<b>ARC 113BB Residential Architectural Technology-BB (Fall)</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: ARC 113AB			
Corequisites: ARC 112			
A continuation of ARC 113AB and final part of ARC 113.			
<b>ARC 114 Architectural CAD (Fall)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: None			
Corequisites: None			
This course introduces basic architectural CAD techniques. Topics include basic commands and system hardware and software. Upon completion, students should be able to prepare and plot architectural drawings to scale within accepted architectural standards.			
<b>ARC 114A Architectural CAD Lab (Fall)</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: None			
Corequisites: ARC 114			
This course provides a laboratory setting to enhance architectural CAD skills. Emphasis is placed on further development of commands and system operation. Upon completion, students should be able to prepare and plot scaled architectural drawings.			

**ARC 131 Building Codes (Fall) 2 2 3**

Prerequisites: ARC 112 or CAR 111

Corequisites: None

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

**ARC 132 Specifications and Contracts (Spring) 2 0 2**

Prerequisites: ARC 112

Corequisites: None

This course covers the development of written specifications and the implications of different contractual arrangements. Topics include specification development, contracts, bidding material research, and agency responsibilities. Upon completion, students should be able to write a specification section and demonstrate the ability to interpret contractual responsibilities.

**ARC 211 Light Construction Technology (Fall) 1 6 3**

Prerequisites: ARC 111

Corequisites: ARC 112

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

**ARC 211AB Light Construction Technology-AB (Fall) 1 3 2**

Prerequisites: ARC 111

Corequisites: ARC 112

The first of two parts of ARC 211.

**ARC 211BB Light Construction Technology-BB (Spring) 0 3 1**

Prerequisites: ARC 211AB

Corequisites: None

A continuation of ARC 211AB and final part of ARC 211.

**ARC 212 Commercial Construction Technology (Fall) 1 6 3**

Prerequisites: ARC 111

Corequisites: ARC 112

This course introduces regional construction techniques for commercial plans, elevations, sections, and details. Topics include production of a set of commercial contract documents and other related topics. Upon completion, students should be able to prepare a set of working drawings in accordance with building codes.



<b>ARC 212AB Commercial Construction Techniques-AB (Fall)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: ARC 111			
Corequisites: ARC 112			
The first of two parts of ARC 212.			
<b>ARC 212BB Commercial Construction Techniques-BB (Spring)</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: ARC 212AB			
Corequisites: None			
A continuation of ARC 212AB and final part of ARC 212.			
<b>ARC 213 Design Project (Spring)</b>	<b>2</b>	<b>6</b>	<b>4</b>
Prerequisites: ARC 111,112,114			
Corequisites: None			
This course provides the opportunity to design and prepare a set of contract documents within an architectural setting. Topics include schematic design, design development, construction documents, and other related topics. Upon completion, students should be able to prepare a set of commercial contract documents.			
<b>ARC 213AB Design Project-AB (Spring)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: ARC 111, 112, 114			
Corequisites: None			
The first of two parts of ARC 213.			
<b>ARC 213BB Design Project-BB (Fall)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: ARC 113AB			
Corequisites: None			
A continuation of ARC 213AB and final part of ARC 213.			
<b>ARC 220 Advanced Architect CAD (Spring)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: ARC 114 Corequisites: None			
This course provides file management, productivity, and CAD customization skills. Emphasis is placed on developing advanced proficiency techniques. Upon completion, students should be able to create prototype drawings and symbol libraries, compose sheets with multiple details, and use advanced drawing and editing commands.			
<b>ARC 230 Environmental Systems (Spring)</b>	<b>3</b>	<b>3</b>	<b>4</b>
Prerequisites: ARC 111 and MAT 121 or MAT 171			
Corequisites: None			
This course introduces plumbing, mechanical (HVAC), and electrical systems for the architectural environment. Topics include basic plumbing, mechanical, and electrical systems for residential and/or commercial buildings with an introduction to selected code requirements. Upon completion, students should be able to develop schematic drawings for plumbing, mechanical, and electrical systems and perform related calculations.			

<p><b>ARC 230AB Environmental Systems-AB (Spring)</b></p> <p>Prerequisites: ARC 111 and MAT 121 or MAT 171</p> <p>Corequisites: None</p> <p>The first of two parts of ARC 230.</p>	<p><b>2 0 2</b></p>
<p><b>ARC 230BB Environmental Systems-BB (Fall)</b></p> <p>Prerequisites: ARC 230AB</p> <p>Corequisites: None</p> <p>A continuation of ARC 230AB and final part of ARC 230.</p>	<p><b>1 2 2</b></p>
<p><b>ARC 231 Architectural Presentations (Spring)</b></p> <p>Prerequisites: ARC 111</p> <p>Corequisites: None</p> <p>This course introduces architectural presentation techniques. Topics include perspective drawing, shadow projection, texturization, rendered plans, elevations, and other related topics. Upon completion, students should be able to present ideas graphically and do rendered presentation drawings.</p>	<p><b>2 4 4</b></p>
<p><b>ARC 231AB Architectural Presentations-AB (Spring)</b></p> <p>Prerequisites: ARC 111</p> <p>Corequisites: None</p> <p>The first of two parts of ARC 231.</p>	<p><b>1 2 2</b></p>
<p><b>ARC 231BB Architectural Presentations-BB (Fall)</b></p> <p>Prerequisites: ARC 231AB</p> <p>Corequisites: None</p> <p>A continuation of ARC 231AB and final part of ARC 231.</p>	<p><b>1 2 2</b></p>
<p><b>ARC 240 Site Planning (Fall)</b></p> <p>Prerequisites: ARC 111 or LAR 111</p> <p>Corequisites: None</p> <p>This course introduces the principles of site planning, grading plans, and earthwork calculations. Topics include site analysis, site work, site utilities, cut and fill, soil erosion control, and other related topics. Upon completion, students should be able to prepare site development plans and details and perform cut and fill calculations.</p>	<p><b>2 2 3</b></p>
<p><b>ART 111 Art Appreciation (Fall, Spring)</b></p> <p>Prerequisites: RED 090 or DRE 097</p> <p>Corequisites: None</p> <p>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. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general</p>	<p><b>3 0 3</b></p>

education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**ART 114 Art History Survey I (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers the development of art forms from ancient times to the Renaissance. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in humanities/fine arts. This is a Universal General Education Transfer Component (UGETC) course.

**ART 115 Art History Survey II (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers the development of art forms from the Renaissance to the present. Emphasis is placed on content, terminology, design, and style. Upon completion, students should be able to demonstrate an historical understanding of art as a product reflective of human social development. This course has been approved for transfer under Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**AST 111 Descriptive Astronomy (Fall) 3 0 3**

Prerequisites: RED 090 or DRE 097, and MAT 080 or

DMA 010, DMA 020, DMA 030, DMA 040, DMA 050,

DMA 060, DMA 070, and DMA 080

Corequisites: AST111A

This course introduces an overall view of modern astronomy. Topics include an overview of the solar system, the sun, stars, galaxies, and the larger universe. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**AST 111A Descriptive Astronomy Lab (Fall) 0 2 1**

Prerequisites: RED 090 or DRE 097, and MAT 080 or DMA 010,

DMA 020, DMA 030, DMA 040, DMA 050, DMA 060,

DMA 070, and DMA 080

Corequisites: AST111

This course is a laboratory to accompany AST 111. Emphasis is placed on laboratory experiences that enhance the materials presented in AST 111 and which provide practical experience. Upon completion, students should be able to demonstrate an understanding of the universe around them. This course has been approved for transfer under the CAA and

ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**AST 151      General Astronomy I (Intermittently)** **3   2   4**

Prerequisites: RED 090, DRE 097, and MAT 080, DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, DMA 060, DMA 070, DMA 080

Corequisites: AST 151A

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**AST 151A      General Astronomy I Lab (Intermittently)** **0   2   1**

Prerequisites: RED 090, DRE 097, and MAT 080, DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, DMA 060, DMA 070, DMA 080

Corequisites: AST 151

This 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. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**ATR 280      Robotic Fundamentals (Fall)** **3   2   4**

Prerequisites: None

Corequisites: None

This course covers application, programming, and maintenance fundamentals for robotic devices. Emphasis is placed on terminology, problem solving, robotic systems controls, and hands-on projects. Upon completion, students should be able to apply basic concepts in application, programming, and robotic control systems.

**ATR 280AB      Robotic Fundamentals-AB (Fall)** **1   2   2**

Prerequisites: None

Corequisites: None

The first of two parts of ATR 280.

**ATR 280BB      Robotic Fundamentals-BB (Spring)** **2   0   2**

Prerequisites: ATR 280AB

Corequisites: None

A continuation of ATR 280AB and final part of ATR 280.

**ATR 281 Automated Manufacturing (Spring) 3 2 4**

Prerequisites: ATR 280

Corequisites: None

This course introduces the concepts and principles of automation in the manufacturing environment. Emphasis is placed on the devices used in hard and flexible automated systems, including the study of inputs, outputs, and control system integration. Upon completion, students should be able to plan, design, and implement automation to support manufacturing process.

**AUT 113 Automotive Servicing I (Fall) 0 6 2**

Prerequisites: AUT 116, AUT 141, and AUT 151

Corequisites: None

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

**AUT 114 Safety and Emissions (Spring) 1 2 2**

Prerequisites: None

Corequisites: AUT 114A

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

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

Prerequisites: None

Corequisites: AUT 114

This course is an optional lab that allows students to enhance their understanding of North Carolina State Emissions Inspection failures. Topics include evaporative, positive crankcase ventilation, exhaust gas recirculation and exhaust emissions systems operation, including catalytic converter failure diagnosis. Upon completion, students should be able to employ diagnostic strategies to repair vehicle emissions failures resulting from North Carolina State Emissions inspection.

**AUT 116 Engine Repair (Fall) 2 3 3**

Prerequisites: None

Corequisites: TRN 110

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

basic diagnosis, measurement and repair of automotive engines using appropriate tools, equipment, procedures, and service information.

**AUT 141 Suspension and Steering Systems (Spring) 2 3 3**

Prerequisites: None

Corequisites: AUT 141A

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

**AUT 141A Suspension and Steering Lab (Spring) 0 3 1**

Prerequisites: None Corequisites: AUT 141

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

**AUT 151 Brake Systems (Spring) 2 3 3**

Prerequisites: None

Corequisites: AUT 151A

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

**AUT 151A Brakes Systems Lab (Spring) 0 3 1**

Prerequisites: None Corequisites: AUT 151

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

**AUT 163 Advanced Auto Electricity (Summer) 2 3 3**

Prerequisites: TRN 120

Corequisites: None

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

able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.

### **AUT 163A    Advanced Auto Electricity Lab**

**3   0   1**

Prerequisites: TRN 120

Corequisites: AUT 163

This course is an optional lab to be used as an alternative to co-op placement in meeting the NATEF standards for total hours. Topics include networking and module communication, circuit construction, wiring diagrams, circuit testing, troubleshooting and emerging electrical/electronic systems technologies. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair wiring, lighting, gauges, accessories, modules, and electronic concerns.

### **AUT 181    Engine Performance I (Spring)**

**2   3   3**

Prerequisites: AUT 116    Corequisites: None

This course covers the introduction, theory of operation, and basic diagnostic procedures required to restore engine performance to vehicles equipped with complex engine control systems. Topics include an overview of engine operation, ignition components and systems, fuel delivery, injection components and systems and emission control devices. Upon completion, students should be able to describe operation and diagnose/repair basic ignition, fuel and emission related drivability problems using appropriate test equipment/service information.

### **AUT 181A    Engine Performance Lab**

**0   3   1**

Prerequisites: AUT 116

Corequisites: AUT 181

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

### **AUT 183    Engine Performance II (Fall)**

**2   6   4**

Prerequisites: AUT 181

Corequisites: None

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

**AUT 212 Auto Shop Management (Summer)**

**3 0 3**

Prerequisites: None

Corequisites: None

This course covers the principals of management essential to decision-making, communication, authority, and leadership. Topics include shop supervision, shop organization, customer relations, cost effectiveness and work place ethics. Upon completion, students should be able to describe basic automotive shop operation from a management standpoint.

**AUT 213 Automotive Servicing II (Spring)**

**1 3 2**

Prerequisites: AUT 113

Corequisites: None

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

**AUT 221 Auto Transmissions/Transaxles (Fall)**

**2 3 3**

Prerequisites: None

Corequisites: None

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

**AUT 231 Manual Transmissions/Axles/Drive Trains (Spring)**

**2 3 3**

Prerequisites: None

Corequisites: None

This course covers the operation, diagnosis, and repair of manual transmissions/transaxles, clutches, driveshafts, axles, and final drives. Topics include theory of torque, power flow, and manual drive train service and repair using appropriate service information, tools, and equipment. Upon completion, students should be able to explain operational theory, diagnose and repair manual drive trains.

**AUT 281 Advanced Engine Performance (Spring)**

**2 2 3**

Prerequisites: AUT 183

Corequisites: None

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



**BDF 110 Fermentation Production (Intermittently) 2 4 4**

Prerequisites: None

Corequisites: None

This course introduces the basic methodologies used in fermentation. Emphasis is placed on the production of fermented products including ingredients, techniques, fermentation management, storage and sanitation. Upon completion, students should be able to design/produce pilot-scale products to demonstrate how material selection and process conditions can generate different kinds/qualities of products.

**BDF 111 BDF Safety and Sanitation (Intermittently) 1 2 2**

Prerequisites: None

Corequisites: None

This course covers sanitation, handling and safety with fermentation products, facilities and equipment. Emphasis is placed on the proper chemicals, their selection, handling and storage for sanitation control within the fermentation environment. Upon completion, students should be able to safely maintain quality and stability of fermentation products.

**BDF 112 Survey of Fermented Products (Intermittently) 3 3 4**

Prerequisites: None

Corequisites: None

This course provides an introduction to fermented products. Emphasis is placed on history, production, characteristics, taxonomy, and evaluation. Upon completion, students should be able to identify and apply factors relevant to the production of fermented products.

**BDF 114 Craft Beer Brewing (Intermittently) 1 3 2**

Prerequisites: None

Corequisites: None

This course introduces entry level skills in craft beer brewing. Topics include recipe development, basic sanitation, techniques and equipment used in the production of small batches (5 gallons or less) of craft beer. Upon completion, students should be able to demonstrate how to produce small batches of craft beer and be able to extrapolate concepts to larger future production.

**BDF 115 Applied Craft Beverage Microbiology (Intermittently) 3 2 4**

Prerequisites: None

Corequisites: None

This course provides an introduction to microbiology and laboratory practices in the brewing industry. Emphasis is placed on yeast biology, fermentation, and microorganisms in brewery/distillation and sanitation. Upon completion, students should be able to demonstrate an understanding of microbiology, laboratory techniques, and commonly used analysis methodologies applied in the brewing industry.

**BDF 125 Bev Tech & Calculations (Intermittently) 1 3 2**

Prerequisites: DMA 010, DMA 020, DMA 030, DMA 040

Corequisites: None

This course introduces technology and mathematical calculations used in craft beverage production. Emphasis is placed on equipment and technology relating to scheduling/record keeping, and recipe development/alcohol control and ingredient usage calculations. Upon completion, students should be able to identify/demonstrate technology and equipment used in craft beverage production and recipe development.

**BDF 170 Beverage Tour and Tasting Management (Intermittently) 2 2 3**

Prerequisites: None

Corequisites: None

This course covers the role of craft beverage as a destination attraction. Emphasis is placed on developing, marketing and managing the craft beverage experience including customer service, special events, and tasting room operations. Upon completion, students should be able to demonstrate tasting room management for craft beverages and its application to tourism and economic development.

**BDF 180 Sensory Evaluation (Intermittently) 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces the visual, olfactory, and gustatory parameters used in the evaluation of beer and distillery products. Emphasis is placed on aromas, finish, flavor/taste interactions, and factors affecting product quality, as well as descriptive analysis/model systems, judging systems, set-up, and operation for beverage competitions. Upon completion, students should be able to demonstrate the fundamental principles/practices in sensory analysis and identify elements that influence sensory qualities of particular craft beverages.

**BDF 215 Legal Issues - Fermentation (Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the laws and regulatory environment particular to the brewing, distillation and fermentation industry. Emphasis is placed on social/ethical responsibilities and the state/federal regulations including licensing, taxation, labeling, record keeping, permits, inspections and laws regarding interstate and international commerce. Upon completion, students should be able to demonstrate an understanding of the laws and regulations that influence the brewing, distillation and fermentation industry.

**BDF 220 Applied Craft Beverage Chemistry (Intermittently) 3 2 4**

Prerequisites: None

Corequisites: None

This course introduces chemistry fundamentals as they apply to the brewing and distillation industry. Emphasis is placed on elements impacting brewing/distillation including

ingredient analysis/fermentation/production chemicals, and properties of gasses/liquids, pH, and pressure. Upon completion, students should be able to demonstrate basic chemistry principles/laboratory techniques to assess/control chemical properties associated with major products of the alcoholic beverage industry.

**BDF 261 Beverage Marketing and Sales (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the planning and resources required to market grains/hops/fruit and brewed or distilled products. Emphasis is placed on the nature of the craft beverage market including industry/consumer trends, economic, legal, and social considerations related to branding, pricing, promotion, and distribution. Upon completion, students should be able to demonstrate a basic proficiency of the marketing principles and practices for craft beverages and the grains/hops/fruit from which they are produced.

**BIO 094 Concepts of Human Biology (Intermittently) 3 2 4**

Prerequisites: RED 090 or DRE 098

Corequisites: None

This course focuses on fundamental concepts of human biology. Topics include terminology, biochemistry, cell biology, tissues, body systems, and other related topics. Upon completion, students should be able to demonstrate preparedness for college-level anatomy and physiology course.

**BIO 106 Intro. to Anatomy/Physiology/Microbiology (Fall) 2 2 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers the fundamental and principle concepts of human anatomy and physiology and microbiology. Topics include an introduction to the structure and function of cells, tissues, and human organ systems, and an overview of microbiology, epidemiology, and control of microorganisms. Upon completion, students should be able to identify structures and functions of the human body and microorganisms and their significance in health and disease.

**BIO 110 Principles of Biology (Fall, Spring, Summer) 3 3 4**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides a survey of fundamental biological principles for non-science majors. Emphasis is placed on basic chemistry, cell biology, metabolism, genetics, 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 every-day life. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**BIO 111 General Biology I (Fall, Spring, Summer) 3 3 4**

Prerequisites: RED 090 or DRE097

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**BIO 112 General Biology II (Fall, Spring, Summer) 3 3 4**

Prerequisites: BIO 111

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**BIO 130 Introductory Zoology (Intermittently) 3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to the classification, relationships, structure, and function of major animal phyla. Emphasis is placed on levels of organization, reproduction and development, comparative systems, and a survey of selected phyla. Upon completion, students should be able to demonstrate comprehension of animal form and function including comparative systems of selected groups. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

**BIO 140 Environmental Biology (Fall, Spring, Summer) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

**BIO 140A Environmental Biology Lab (Fall, Spring, Summer) 0 3 1**

Prerequisites: RED 090 or DRE 097

Corequisites: BIO 140

This course provides a laboratory component to complement BIO 140. Emphasis is placed on laboratory and field experience. Upon completion, students should be able to demonstrate a practical understanding of environmental interrelationships and of contemporary environmental issues. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

**BIO 143 Field Biology Minicourse (Intermittently) 1 2 2**

Prerequisites: None

Corequisites: None

This course introduces the biological and physical components of a field environment. Emphasis is placed on a local field environment with extended field trips to other areas. Upon completion, students should be able to demonstrate an understanding of the biological and physical components of the specific biological environment. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 145 Ecology (Intermittently) 3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course provides an introduction to ecological concepts using an ecosystem approach. Topics include energy flow, nutrient cycling, succession, population dynamics, community structure, and other related topics. Upon completion, students should be able to demonstrate comprehension of basic ecosystem structure and dynamics. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 146 Regional Natural History (Intermittently) 3 3 4**

Prerequisites: None Corequisites: None

This course is an interdisciplinary and historical analysis of the natural resources of the region. Emphasis is placed on geology, climate, forest systems, watersheds, water resources, and fish and wildlife resources of the region. Upon completion, students should be able to demonstrate comprehension of the natural history and the integration of the natural resources of the region. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 150 Genetics in Human Affairs (Intermittently) 3 0 3**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

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

**BIO 155 Nutrition (Intermittently)**

**3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers the biochemistry of foods and nutrients with consideration of the physiological effects of specialized diets for specific biological needs. Topics include cultural, religious, and economic factors that influence a person's acceptance of food, as well as nutrient requirements of the various life stages. Upon completion, students should be able to identify the functions and sources of nutrients, the mechanisms of digestion and the nutritional requirements of all age groups. This course has been approved for transfer under the CAA and ICAA as a premajor and /or elective course requirement.

**BIO 161 Introduction to Human Biology (Fall, Spring)**

**3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides a basic survey of human biology. Emphasis is placed on the basic structure and function of body systems and the medical terminology used to describe normal and pathological states. Upon completion, students should be able to demonstrate an understanding of normal anatomy and physiology and the appropriate use of medical terminology.

**BIO 163 Basic Anatomy & Physiology (Fall, Spring)**

**4 2 5**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides a basic study of the structure and function of the human body. Topics include a basic study of the body systems as well as an introduction to homeostasis, cells, tissues, nutrition, acid-base balance, and electrolytes. Upon completion students should be able to demonstrate a basic understanding of the fundamental principles of anatomy and physiology and their interrelationships. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 168 Anatomy and Physiology I (Fall, Spring)**

**3 3 4**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides a comprehensive study of the anatomy and physiology of the human body. Topics include body organization, homeostasis, cytology, histology, and the integumentary, skeletal, muscular, nervous, and special senses. Upon completion, students should be able to demonstrate an in-depth understanding of principles of anatomy and physiology and their interrelationships. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 169 Anatomy and Physiology II (Fall, Spring)**

**3 3 4**

Prerequisites: BIO 168

Corequisites: None

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

**BIO 175 General Microbiology (Intermittently) 2 2 3**

Prerequisites: BIO 110 or BIO 111 or BIO 163 or BIO 168

Corequisites: None

This course covers the principles of microbiology with emphasis on microorganisms and human disease. Topics include an overview of microbiology and aspects of medical microbiology, identification and control of pathogens, disease transmission, host resistance, and immunity. Upon completion, students should be able to demonstrate knowledge of microorganisms and the disease process as well as aseptic and sterile techniques. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 235 Ornithology (Intermittently) 3 3 4**

Prerequisites: BIO 110 or BIO 111

Corequisites: None

This course introduces the biology of birds. Emphasis is placed on the systematics, recognition, distribution, anatomy, physiology, behavior, and ecology of birds. Upon completion, students should be able to identify various avian species and demonstrate a knowledge of their biology and ecology.

**BIO 250 Genetics (Intermittently) 3 3 4**

Prerequisites: BIO 112

Corequisites: None

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

**BIO 275 Microbiology (Intermittently) 3 3 4**

Prerequisites: BIO 110 or BIO 111 or BIO 163 or BIO 168

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BIO 280 Biotechnology (Spring)**

**2 3 3**

Prerequisites: BIO 111 or CHM 131 or CHM 151

Corequisites: None

This course provides experience in selected laboratory procedures. Topics include proper laboratory techniques in biology and chemistry. Upon completion, students should be able to identify laboratory techniques and instrumentation in basic biotechnology. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**BPR 111 Print Reading (Fall)**

**1 2 2**

Prerequisites: None

Corequisites: None

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.

**BUS 110 Introduction to Business (Fall, Spring)**

**3 0 3**

Prerequisites: DRE 097

Corequisites: None

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

**BUS 115 Business Law I (Fall, Spring)**

**3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course introduces the ethics and legal 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. This course has been approved for transfer under the Comprehensive Articulation Agreement as a premajor and/or elective course requirement.

**BUS 137 Principles of Management (Fall, Spring)**

**3 0 3**

Prerequisites: BUS 110

Corequisites: None



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

**BUS 151**      **People Skills (Intermittently)**      **3 0 3**

Prerequisites: DRE 097

Corequisites: None

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.

**BUS 225**      **Business Finance (Fall, Spring)**      **2 2 3**

Prerequisites: ACC 120

Corequisites: None

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

**BUS 238**      **Integrated Management (Spring)**      **3 0 3**

Prerequisites: ACC 120, BUS 137, ECO 251 or ECO 252

Corequisites: None

This course provides a management simulation exercise in which students make critical managerial decisions based upon the situations that arise in operating competitive business enterprises. Topics include operations management, forecasting, budgeting, purchasing, facility layout, aggregate planning, and work improvement techniques. Upon completion, students should be able to perform the variety of analytical and decision-making requirements that will be faced in a business.

**BUS 240**      **Business Ethics (Spring)**      **3 0 3**

Prerequisites: BUS 110

Corequisites: None

This course introduces contemporary and controversial ethical issues that face the business community. Topics include moral reasoning, moral dilemmas, law and morality, equity, justice and fairness, ethical standards, and moral development. Upon completion, students should be able to demonstrate an understanding of their moral responsibilities and obligations as members of the workforce and society.

**BUS 260 Business Communication (Spring)**

**3 0 3**

Prerequisites: ENG 111

Corequisites: None

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

**CET 111 Computer Upgrade/Repair I (Spring)**

**2 3 3**

Prerequisites: EGR 125 or ELC 131

Corequisites: None

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

**CET 211 Computer Upgrade/Repair II (Fall)**

**2 3 3**

Prerequisites: CET 111

Corequisites: None

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

**CET 222 Computer Architecture (Summer)**

**2 0 2**

Prerequisites: None

Corequisites: None

This course introduces the organization and design philosophy of computer systems with respect to resource management, throughput, and operating system interaction. Topics include instruction sets, registers, data types, memory management, virtual memory, cache, storage management, multi-processing, and pipelining. Upon completion, students should be able to evaluate system hardware and resources for installation and configuration purposes.

**CET 245 Internet Servers**

**2 3 3**

Prerequisites: ELN 237

Corequisites: None

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

**CET 251      Software Engineering Principles (Spring)****3 3 4**

Prerequisites: CSC 143

Corequisites: None

This course introduces the methodology used to manage the development process for complex software systems. Topics include the software life cycle, resource allocation, team dynamics, design techniques, and tools that support these activities. Upon completion, students should be able to design and build robust software in a team setting.

**CET 293      Selected Topics in Comp. Engineering Tech (Fall)****2 3 3**

Prerequisites: CET Instructor Permission

Corequisites: None

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

**CHM 092      Fundamentals of Chemistry (Intermittently)****3 2 4**

Prerequisites: MAT 060 or DMA 010, DMA 020, and 030

Corequisites: None

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

**CHM 130      General Organic & Biochemistry (Fall, Spring, Summer) 3 0 0**

Prerequisites: RED 090 or DRE 097, and DMA 010, 020, 030, 040, 050, and 060

Corequisites: CHM 130A

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

**CHM 130A      General Organic & Biochemistry Lab (Fall, Spring, Summer) 0 2 1**

Prerequisites: RED 090 or DRE 097, and DMA 010, 020, 030, 040, 050, and 060

Corequisites: CHM 130

This course is a laboratory for CHM 130. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 130. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM

130. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**CHM 131 Introduction to Chemistry (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097, DMA 010, 020, 030, 040, 050, 060, 070, and 080

Corequisites: CHM 131A

This course introduces the fundamental concepts of inorganic chemistry. Topics include measurement, matter and energy, atomic and molecular structure, nuclear chemistry, stoichiometry, chemical formulas and reactions, chemical bonding, gas laws, solutions, and acids and bases. Upon completion, students should be able to demonstrate a basic understanding of chemistry as it applies to other fields. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

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

Prerequisites: RED 090 or DRE 097, DMA 010, 020, 030, 040, 050, 060, 070, and 080

Corequisites: CHM 131

This course is a laboratory to accompany CHM 131. Emphasis is placed on laboratory experiences that enhance materials presented in CHM 131. Upon completion, students should be able to utilize basic laboratory procedures and apply them to chemical principles presented in CHM 131. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science.

**CHM 151 General Chemistry I (Fall, Spring, Summer) 3 3 4**

Prerequisites: RED 090 or DRE 097, and DMA 010, 020, 030, 040, 050, 060, 070, and 080

Corequisites: None

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry, gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**CHM 152 General Chemistry II (Spring) 3 3 4**

Prerequisites: CHM 151

Corequisites: None

This course provides a continuation of the study of the fundamental principles and laws of chemistry. Topics include kinetics, equilibrium, ionic and redox equations, acid-base theory, electrochemistry, thermodynamics, introduction to nuclear and organic chemistry, and complex ions. Upon completion, students should be able to demonstrate an understanding of chemical concepts as needed to pursue further study in chemistry and related professional fields. This course has been approved for transfer under the CAA and ICAA as a

general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**CHM 251 Organic Chemistry I (Intermittently) 3 3 4**

Prerequisites: CHM 152

Corequisites: None

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

**CHM 252 Organic Chemistry II (Intermittently) 3 3 4**

Prerequisites: CHM 251

Corequisites: None

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

**CHM 261 Quantitative Analysis (Intermittently) 2 6 4**

Prerequisites: CHM 152

Corequisites: None

This course introduces classical methods of chemical analysis with an emphasis on laboratory techniques. Topics include statistical data treatment; stoichiometric and equilibrium calculations; and titrimetric, gravimetric, acid-base, oxidation-reduction, and compleximetric methods. Upon completion, students should be able to perform classical quantitative analytical procedures. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**CIS 110 Introduction to Computers (Fall, Spring, Summer) 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. This course is not intended for a computer

novice; this course involves multiple concepts and is a fast-paced introduction to software applications. This course has been approved for transfer under the Comprehensive Articulation Agreement as a general education course in Mathematics (Quantitative Option).

**CIS 115 Introduction to Programming and Logic (Intermittently) 2 3 3**

Prerequisites: DMA 040

Corequisites: None

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

**CJC 100 Basic Law Enforcement Training (Fall, Spring) 9 30 19**

Prerequisites: Sponsorship letter required from a Public Law Enforcement Agency which must be maintained throughout the course.

Corequisites: None

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 sheriff-specific. Upon successful completion, the student will be able to demonstrate competence in the topics and areas required for the state comprehensive certification examination. This is a certificate-level course.

**CJC 111 Introduction to Criminal Justice (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the components and processes of the criminal justice system. Topics include history, structure, functions, and philosophy of the criminal justice system and their relationship to life in our society. Upon completion, students should be able to define and describe the major system components and their interrelationships and evaluate career options. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**CJC 112 Criminology (Fall, Spring, Summer) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces deviant behavior as it relates to criminal activity. Topics include theories of crime causation; statistical analysis of criminal behavior; past, present, and future social control initiatives; and other related topics. Upon completion, students should be able to explain and discuss various theories of crime causation and societal response.

**CJC 113 Juvenile Justice (Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course covers the juvenile justice system and related juvenile issues. Topics include an overview of the juvenile justice system, treatment and prevention programs, special areas and laws unique to juveniles, and other related topics. Upon completion, students should be able to identify/discuss juvenile court structure/procedures, function and jurisdiction of juvenile agencies, processing/ detention of juveniles, and case disposition.

**CJC 114 Investigative Photography (Fall)****1 2 2**

Prerequisites: None

Corequisites: None

This course covers the operation of digital photographic equipment and its application to criminal justice. Topics include the use of digital cameras, storage of digital images, the retrieval of digital images and preparation of digital images as evidence. Upon completion, students should be able to demonstrate and explain the role and use of digital photography, image storage and retrieval in criminal investigations.

**CJC 120 Interviews/Interrogations (Intermittently)****1 2 2**

Prerequisites: None

Corequisites: None

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

**CJC 121 Law Enforcement Operations (Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course introduces fundamental law enforcement operations. Topics include the contemporary evolution of law enforcement operations and related issues. Upon completion, students should be able to explain theories, practices, and issues related to law enforcement operations. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**CJC 122 Community Policing (Fall, Spring, Summer)****3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 131 Criminal Law (Spring)**

**3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 131AB Criminal Law**

**2 0 2**

Prerequisites: None Corequisites: None

The first of two parts of CJC 131.

**CJC 131BB Criminal Law**

**1 0 1**

Prerequisites: CJC 213AB

Corequisites: None

A continuation of CJC 131AB and the final part of CJC 131.

**CJC 132 Court Procedure and Evidence (Fall, Spring)**

**3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 141 Corrections (Fall, Spring)**

**3 0 3**

Prerequisites: None

Corequisites: None

This course covers the history, major philosophies, components, and current practices and problems of the field of corrections. Topics include historical evolution, functions of the various components, alternatives to incarceration, treatment programs, inmate control, and other related topics. Upon completion, students should be able to explain the various components, processes, and functions of the correctional system. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**CJC 144 Crime Scene Processing (Fall)**

**2 3 3**

Prerequisites: None

Corequisites: None

This course introduces the theories and practices of crime scene processing and investigating. Topics include legal considerations at the crime scene, processing indoor and outdoor



scenes, recording, note taking, collection and preservation of evidence and submission to the crime laboratory. Upon completion, the student should be able to evaluate and search various crime scenes and demonstrate the appropriate techniques. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

**CJC 145 Crime Scene CAD (Fall, Spring) 2 3 3**

Prerequisites: None

Corequisites: None

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

**CJC 146 Trace Evidence (Fall) 2 3 3**

Prerequisites: None

Corequisites: None

This course provides a study of trace evidence as it relates to forensic science. Topics include collection, packaging, and preservation of trace evidence from crime scenes such as bombings, fires and other scenes. Upon completion, students should be able to demonstrate the fundamental concepts of trace evidence collection, preservation and submission to the crime laboratory. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

**CJC 151 Introduction to Loss Prevention (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 212 Ethics and Community Relations (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 213 Substance Abuse (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 213AB Substance Abuse AB (Fall) 2 0 2**

Prerequisites: None

Corequisites: None

The first of two parts of CJC 213.

**CJC 213BB Substance Abuse BB (Spring) 1 0 1**

Prerequisites: CJC 213AB

Corequisites: None

A continuation of CJC 213AB and the final part of CJC 213.

**CJC 214 Victimology (Fall, Spring, Summer) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 215 Organization and Administration (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 221 Investigative Principles (Fall, Spring) 3 2 4**

Prerequisites: None

Corequisites: None

This course introduces the theories and fundamentals of the investigative process. Topics include crime scene/incident processing, information-gathering techniques, collection/preservation of evidence, preparation of appropriate reports, court presentations, and other related topics. Upon completion, students should be able to identify, explain, and demonstrate the techniques of the investigative process, report preparation, and courtroom presentation.

**CJC 222 Criminalistics (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 225 Crisis Intervention (Intermittently) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CJC 231 Constitutional Law (Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This 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.

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

Prerequisites: None

Corequisites: None

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

**CJC 245 Friction Ridge Analysis (Fall) 2 3 3**

Prerequisites: None

Corequisites: None

This course introduces the basic elements of fingerprint technology and techniques applicable to the criminal justice field. Topics include the history and meaning of fingerprints,

pattern types and classification filing sequence, searching and referencing. Upon completion, the students should be able to discuss and demonstrate the fundamental techniques of basic fingerprint technology. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

**CJC 246     Advanced Friction Ridge Analysis (Spring)**                     2   3   3

Prerequisites: CJC 245

Corequisites: None

This course introduces the theories and processes of advanced friction ridge analysis. Topics include evaluation of friction ridges, chart preparation, comparative analysis for 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. This course is a unique concentration requirement in the Latent Evidence concentration in the Criminal Justice Technology Program.

**CJC 250     Forensic Biology I (Fall, Spring, Summer)**                     2   2   3

Prerequisites:         None

Corequisites:         None

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

**CJC 251     Forensic Chemistry I (Spring)**                     3   2   4

Prerequisites: None

Corequisites: None

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

**COM 110     Introduction to Communication (Fall, Spring)**                     3   0   3

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an overview of the basic concepts of communication and the skills necessary to communicate in various contexts. Emphasis is placed on communication theories and techniques used in interpersonal, group, public, intercultural, and mass communication situations. Upon completion, students should be able to explain and illustrate the forms and purposes of human communication in a variety of contexts. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in English Composition.

**COM 120 Interpersonal Communication (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the practices and principles of interpersonal communication in both dyadic and group settings. Emphasis is placed on the communication process, perception, listening, self-disclosure, speech apprehension, ethics, nonverbal communication, conflict, power, and dysfunctional communication relationships. Upon completion, students should be able to demonstrate interpersonal communication skills, apply basic principles of group discussion, and manage conflict in interpersonal communication situations. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in English Composition.

**COM 140 Intercultural Communication (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces techniques of cultural research, definitions, functions, characteristics, and impacts of cultural differences in public address. Emphasis is placed on how diverse backgrounds influence the communication act and how cultural perceptions and experiences determine how one sends and receives messages. Upon completion, students should be able to demonstrate an understanding of the principles and skills needed to become effective in communicating outside one's primary culture. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general elective course in English Composition.

**COM 160 Small Group Communication (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an overview of the theory, practice, and critical analysis of communication in the small group setting. Emphasis is placed on group development, conflict, and conformity; leadership skills and styles; group roles and ranks; and decision making, problem solving, and conflict resolution. Upon completion, students should be able to apply topics of gender, culture, and social-emotional functions within group settings. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) or ICAA as a premajor and/or elective course requirement.

**COM 231 Public Speaking (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and

ICAA as a general education course in English Composition. This is a Universal General Education Transfer Component (UGETC) course.

**COM 251 Debate I (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

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. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA DRE as a premajor and/or elective course requirement.

**COS 111 Cosmetology Concepts I (Fall, Spring) 4 0 4**

Prerequisites: None

Corequisites: COS 112

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

**COS 111AB Cosmetology Concepts I-AB (Fall) 2 0 2**

Prerequisites: None

Corequisites: COS 112AB The first of two parts of COS 111.

**COS 111BB Cosmetology Concepts I-BB (Spring) 2 0 2**

Prerequisites: COS 111AB

Corequisites: COS 112BB

A continuation of COS 111AB and final part of COS 111.

**COS 112 Salon I (Fall, Spring) 0 24 8**

Prerequisites: None

Corequisites: COS 111

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

**COS 112AB Salon I-AB (Fall) 0 12 4**

Prerequisites: None

Corequisites: COS 111AB The first of two parts of COS 112.

**COS 112BB Salon I-BB (Spring) 0 12 4**

Prerequisites: COS 112AB

Corequisites: COS 111BB

A continuation of COS 112AB and final part of COS 112.

**COS 113 Cosmetology Concepts II (Fall, Spring) 4 0 4**

Prerequisites: COS 111, COS 112

Corequisites: None

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

**COS 113AB Cosmetology Concepts II-AB (Fall, Spring) 2 0 2**

Prerequisites: COS 111, COS 112

Corequisites: None

The first of two parts of COS 113.

**COS 113BB Cosmetology Concepts II-BB (Fall, Spring) 2 0 2**

Prerequisites: COS 111, COS 112

Corequisites: None

A continuation of COS 113AB and final part of COS 113.

**COS 114 Salon II (Fall, Spring) 0 24 8**

Prerequisites: COS 111, COS 112

Corequisites: None

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

**COS 114AB Salon II-AB (Fall, Spring) 0 12 4**

Prerequisites: COS 111, COS 112

Corequisites: None

The first of two parts of COS 114

**COS 114BB Salon II-BB (Spring) 0 12 4**

Prerequisites: COS 111, COS 112

Corequisites: None

A continuation of COS 114AB and final part of COS 114.

**COS 115 Cosmetology Concepts III (Fall, Spring, Summer) 4 0 4**

Prerequisites: COS 111, COS 112

Corequisites: None

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

**COS 115AB Cosmetology Concepts III-AB (Fall, Spring) 2 0 2**

Prerequisites: COS 111, COS 112

Corequisites: None

The first of two parts of COS 115.

**COS 115BB Cosmetology Concepts III-BB (Spring) 2 0 2**

Prerequisites: COS 111, COS 112

Corequisites: None

A continuation of COS 115AB and final part of COS 115.

**COS 116 Salon III (Fall, Spring, Summer) 0 12 4**

Prerequisites: COS 111, COS 112

Corequisites: None

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

**COS 117 Cosmetology Concepts IV (Fall, Spring) 2 0 2**

Prerequisites: COS 111, COS 112

Corequisites: None

This course covers advanced cosmetology concepts. Topics include chemistry and hair structure, advanced cutting and design, and an overview of all cosmetology concepts in preparation for the licensing examination. Upon completion, students should be able to demonstrate an understanding of these cosmetology concepts and meet program completion requirements.

**COS 118 Salon IV (Fall, Spring) 2 21 7**

Prerequisites: COS 111, COS 112

Corequisites: None

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



**COS 118AB Salon IV-AB (Fall)****0 9 3**

Prerequisites: COS 111, COS 112

Corequisites: None

The first of two parts of COS 118.

**COS 118BB Salon IV-BB (Spring)****0 12 4**

Prerequisites: COS 111, COS 112

Corequisites: None

A continuation of COS 118AB and final part of COS 118. The courses are not required to be taken in sequential order.

**COS 240 Contemporary Design (Spring, Summer)****0 12 4**

Prerequisites: COS 111, COS 112

Corequisites: None

This course covers methods and techniques for contemporary designs. Emphasis is placed on contemporary designs and other related topics. Upon completion, students should be able to demonstrate and apply techniques associated with contemporary design.

**CSC 143 Object-Oriented Programming (Fall)****2 3 3**

Prerequisites: CSC 251

Corequisites: None

This course introduces the concepts of object-oriented programming. 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, test, debug, and implement objects at the application level using the appropriate environment.

**CSC 151 Java Programming (Spring)****2 3 3**

Prerequisites: EGR 125 or ELN 232 or CTI 110

Corequisites: None

This course introduces computer programming using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools such as the class debugger. Upon completion students should be able to design, code, test, debug JAVA language programs. This course has been approved for transfer under the Comprehensive Articulation Agreement as a premajor and/or elective course requirement.

**CSC 251 Advanced Java Programming (Summer)****2 3 3**

Prerequisites: CSC 151

Corequisites: None

This course is a continuation of CSC 151 using the JAVA programming language with object-oriented programming principles. Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools



and protocols of wireless local area networks (WLAN). Upon completion, students should be able to design, implement, and administer wireless local area networks.

**CTI 240 Virtualization Admin I (Spring) 1 4 3**

Prerequisites: NOS 130

Corequisites: None

This course covers datacenter virtualization concepts. Topics include data storage, virtual network configuration, virtual machine and virtual application deployment. Upon completion, students should be able to perform tasks related to virtual machine and hypervisor installation and configuration.

**CTS 115 Info System Business Concept (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

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

**CTS 120 Hardware/Software Support (Fall) 2 3 3**

Prerequisites: None

Corequisites: None

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

**CTS 130 Spreadsheet (Fall, Spring) 2 2 3**

Prerequisites: None Corequisites: None

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

**CTS 220 Advanced Hardware/Software Support (Spring) 2 3 3**

Prerequisites: CTS 120

Corequisites: None

This course provides advanced knowledge and competencies in hardware and operating system technologies for computer technicians to support personal computers. Emphasis is placed on: configuring and upgrading; diagnosis and troubleshooting; as well as preventive maintenance of hardware and system software. Upon completion, students should be able to install, configure, diagnose, perform preventive maintenance, and maintain basic networking on personal computers.

**CTS 285      Systems Analysis and Design (Intermittently)                      3   0   3**

Prerequisites: CIS 115

Corequisites: None

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

**CTS 287      Emerging Technologies (Spring)    3   0   3**

Prerequisites: DRE 097

Corequisites: None

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

**CTS 289      System Support Project (Spring)    1   4   3**

Prerequisites: CTS 115, CTI 110, CTI 120 and Instructor Permission

Corequisites: None

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

**CUL 110      Sanitation and Safety (Fall, Spring)    2   0   2**

Prerequisites: None

Corequisites: None

This course introduces the basic principles of sanitation and safety relative to the hospitality industry. Topics include personal hygiene, sanitation and safety regulations, use and care of equipment, the principles of food-borne illness, and other related topics. Upon completion, students should be able to demonstrate an understanding of the content necessary for successful completion of a nationally recognized food/safety/sanitation exam. Students must pass the course with a grade of C or better and must pass the ServSafe Food Safety exam with a 75% or better during the course in order to receive credit toward graduation and satisfy the CUL 110 prerequisite for culinary courses.

**CUL 112 Nutrition for Foodservice (Summer)****3 0 3**

Prerequisites: DMA 112,

Corequisites: None

This course covers the principles of nutrition and its relationship to the foodservice industry. Topics include personal nutrition fundamentals, weight management, exercise, nutritional adaptation/analysis of recipes/menus, healthy cooking techniques, and marketing nutrition in a foodservice operation. Upon completion, students should be able to apply basic nutritional concepts to food preparation and selection.

**CUL 120 Purchasing (Fall)****2 0 2**

Prerequisites: DMA 010, DMA 020, DMA 030, DMA 040

Corequisites: CUL 120A

This course covers purchasing for foodservice operations. Emphasis is placed on yield tests, procurement, negotiating, inventory control, product specification, purchasing ethics, vendor relationships, food product specification, and software applications. Upon completion, students should be able to apply effective purchasing techniques based on the end-use of the product.

**CUL 120A Purchasing Lab (Fall)****0 2 1**

Prerequisites: DMA 010, DMA 020, DMA 030, DMA 040

Corequisites: CUL 120

This course provides a laboratory experience for enhancing student skills in purchasing for foodservice operations. Emphasis is placed on practical experiences in yield tests, procurement, negotiating, inventory control, product specification, purchasing ethics, vendor relationships, food product specifications; and software applications. Upon completion, students should be able to demonstrate practical applications of purchasing within the hospitality industry.

**CUL 130 Menu Design (Fall)****2 0 2**

Prerequisites: None

Corequisites: None

This course introduces menu design and its relationship to foodservice operations. Topics include layout, marketing, concept development, dietary concerns, product utilization, target consumers, and trends. Upon completion, students should be able to design, create, and produce menus for a variety of foodservice settings.

**CUL 135 Food and Beverage Service (Fall)****2 0 2**

Prerequisites: None

Corequisites: CUL 135A

This course is designed to cover the practical skills and knowledge necessary for effective food and beverage service in a variety of settings. Topics include greeting/service of guests, dining room set-up, profitability, menu sales and merchandising, service styles, and reservations. Upon completion, students should be able to demonstrate competence in human relations and the skills required in the service of foods and beverages.

**CUL 135A Food and Beverage Service Lab (Fall) 0 2 1**

Prerequisites: None

Corequisites: CUL 135

This course provides a laboratory experience for enhancing student skills in effective food and beverage service. Emphasis is placed on practical experiences including greeting/service of guests, dining room set-up, profitability, menu sales and merchandising, service styles, and reservations. Upon completion, students should be able to demonstrate practical applications of human relations and the skills required in the service of foods and beverages.

**CUL 140 Culinary Skills I (Fall) 2 6 5**

Prerequisites: MAT 060 or DMA 010, DMA 020, and DMA 030

Corequisites: CUL 110

This course introduces the fundamental concepts, skills, and techniques in basic cookery, and moist, dry, and combination heat. Emphasis is placed on recipe conversion, measurements, terminology, classical knife cuts, safe food/equipment handling, flavorings/seasonings, stocks/sauces/soups, and related topics. Upon completion, students should be able to exhibit the basic cooking skills used in the food service industry.

**CUL 142 Fundamentals of Food (Intermittently) 2 6 5**

Prerequisites: DMA 010, DMA 020, and DMA 030

Corequisites: CUL 110

This course introduces the student to the basic principles of cooking, baking and kitchen operations. Topics include preparation methods for protein, starch, vegetable/fruit identification/selection, storage; breakfast cookery, breads, sweet dough/pastries, basic fabrication, knife skills, and mise en place. Upon completion, students should be able to execute efficiently a broad range of basic cooking/baking skills as they apply to different stations in foodservice operations.

**CUL 160 Baking I (Fall) 1 4 3**

Prerequisites: MAT 060 or DMA 010, DMA 020, and DMA 030

Corequisites: CUL 110

This course covers basic ingredients, techniques, weights and measures, baking terminology, and formula calculations. Topics include yeast/chemically leavened products, laminated doughs, pastry dough batter, pies/tarts, meringue, custard, cakes and cookies, icings, glazes, and basic sauces. Upon completion, students should be able to demonstrate proper scaling and measurement techniques, and prepare and evaluate a variety of bakery products.

**CUL 170 Garde Manger I (Fall) 1 4 3**

Prerequisites: CUL 240

Corequisites: CUL 110

This course introduces basic cold food preparation techniques and pantry production. Topics include salads, sandwiches, appetizers, dressings, basic garnishes, cheeses, cold sauces,

and related food items. Upon completion, students should be able to present a cold food display and exhibit an understanding of the cold kitchen and its related terminology.

**CUL 230 Global Cuisines (Fall) 1 8 5**

Prerequisites: CUL 110, CUL 140, CUL 240

Corequisites: None

This course provides practical experience in the planning, preparation, and presentation of representative foods from a variety of world cuisines. Emphasis is placed on indigenous ingredients and customs, nutritional concerns, and cooking techniques. Upon completion, students should be able to research and execute a variety of international and domestic menus.

**CUL 240 Culinary Skills II (Spring) 1 8 5**

Prerequisites: CUL 110, CUL 140

Corequisites: None

This course is designed to further students' knowledge of the fundamental concepts, skills, and techniques involved in basic cookery. Emphasis is placed on meat identification/fabrication, butchery, and cooking techniques/methods, appropriate vegetable/starch accompaniments; compound sauces; plate presentation; breakfast cookery; and quantity food preparation. Upon completion, students should be able to plan, execute, and successfully serve entrees with complementary side items.

**CUL 250 Classical Cuisine (Spring) 1 8 5**

Prerequisites: CUL 110, CUL 140, and CUL 240

Corequisites: None

This course is designed to reinforce the classical culinary kitchen. Topics include the working Grand Brigade of the kitchen, signature dishes, and classical banquets. Upon completion, students should be able to demonstrate competence in food preparation in a classical/upscale restaurant or banquet setting.

**CUL 260 Baking II (Spring) 1 4 3**

Prerequisites: CUL 110, CUL 160

Corequisites: None

This course is designed to further students' knowledge in ingredients, weights and measures, baking terminology, and formula calculation. Topics include classical desserts, frozen desserts, cake and torte production, decorating and icings/glazes, dessert plating, and presentation. Upon completion, students should be able to demonstrate pastry preparation, plating, and dessert buffet production skills.

**CUL 270 Garde Manger II (Spring) 1 4 3**

Prerequisites: CUL 110, CUL 140, and CUL 170

Corequisites: None

This course is designed to further students' knowledge in basic cold food preparation techniques and pantry production. Topics include pâtés, terrines, galantines, decorative

garnishing skills, carving, charcuterie, smoking, canapés, hors d'oeuvres, and related food items. Upon completion, students should be able to design, set up, and evaluate a catering/event display to include a cold buffet with appropriate showpieces.

**DBA 110 Database Concepts (Fall, Spring) 2 3 3**

Prerequisites: None Corequisites: None

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

**DBA 115 Database Applications (Fall) 2 2 3**

Prerequisites: DBA 110

Corequisites: None

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

**DFT 119 Basic CAD (Summer) 1 2 2**

Prerequisites: None

Corequisites: None

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.

**DFT 151 CAD I (Spring) 2 3 3**

Prerequisites: CIS 110, CIS 113, or EGR 125

Corequisites: None

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

**DFT 170 Engineering Graphics 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces basic engineering graphics skills and applications. Topics include sketching, selection and use of current methods and tools, and the use of engineering graphics applications. Upon completion, students should be able to demonstrate an understanding of basic engineering graphics principles and practices.



**DMA 010    Operations with Integers** **.75 .50 1**

Prerequisite: Appropriate score on Course Readiness Assessments

Corequisites: None

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.

**DMA 020    Fractions and Decimals** **.75 .50 1**

Prerequisite: DMA 010

Corequisite: None

This course provides a conceptual study of the relationship between fractions and decimal 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.

**DMA 030    Proportions/Ratios/Rate/Percent** **.75 .50 1**

Prerequisite: DMA 010 and DMA 020

Corequisite: None

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.

**DMA 040    Expressions/Linear Equations/Inequalities** **.75 .50 1**

Prerequisite: MAT 060 or DMA 010, DMA 020, and DMA 030

Corequisite: None

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.

**DMA 050    Graphs/Equations of Lines** **.75 .50 1**

Prerequisite: DMA 010, DMA 020, DMA 030 and DMA 040 or MAT 060 and DMA 040

Corequisite: None

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.

**DMA 060 Polynomials/Quadratic Applications .75 .50 1**

Prerequisite: DMA 010, DMA 020, DMA 030, DMA 040,  
and DMA 050 or MAT 060 and MAT 070

Corequisite: None

This course provides a study of problems involving algebraic representations of quadratic equations. Topics include basic polynomial operations, factoring polynomials, and solving polynomial equations by means of factoring. Upon completion, students should be able to find algebraic solutions to contextual problems with quadratic applications.

**DMA 070 Rational Expressions and Equations .75 .50 1**

Prerequisite: DMA 010, DMA 020, DMA 030, DMA 040,  
DMA 050 and DMA 060 or MAT 060, MAT 070, and DMA 060

Corequisite: None

This course provides a study of problems involving algebraic representations of rational equations. Topics include simplifying and performing operations with rational expressions and equations, understanding the domain, and determining the reasonableness of an answer. Upon completion, students should be able to find algebraic solutions to contextual problems with rational applications.

**DMA 080 Radical Expressions and Equations .75 .50 1**

Prerequisite: DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, DMA 060, and DMA 070

Corequisite: None

This course provides a study of problems involving algebraic representations of the manipulation of radical expressions and the application of radical equations. Topics include simplifying and performing operations with radical expressions and rational exponents, solving radical equations, and determining the seasonableness of a solution. Upon completion, students should be able to find algebraic solutions to contextual problems with radical applications.

**DRA 111 Theatre Appreciation (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

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. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**DRA 170 Play Production I (Spring) 0 9 3**

Prerequisites: None

Corequisites: None

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated

with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**DRA 171 Play Production II (Spring) 0 9 3**

Prerequisites: DRA 170

Corequisites: None

This course provides an applied laboratory study of the processes involved in the production of a play. Topics include fundamental practices, principles, and techniques associated with producing plays of various periods and styles. Upon completion, students should be able to participate in an assigned position with a college theatre production. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**DRE 096 Integrated Reading and Writing I 2.5 1 3**

Prerequisites: None

Corequisites: None

This course is designed to develop proficiency in specific integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; these topics are primarily taught at the introductory level using texts primarily in a Lexile® range of 960 to 1115. Upon completion, students should be able to apply those skills toward understanding a variety of academic and career-related texts and composing effective paragraphs.

**DRE 097 Integrated Reading and Writing II 2.5 1 3**

Prerequisites: DRE 096 or ENG 080 or RED 090

Corequisites: None

This course is designed to develop proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; except where noted, these topics are taught at a reinforcement level using texts primarily in a Lexile® range of 1070 to 1220. Upon completion, students should be able to demonstrate and apply those skills toward understanding a variety of academic and career texts and composing essays incorporating relevant, valid evidence.

**DRE 098 Integrated Reading and Writing III 2.5 1 3**

Prerequisites: DRE 097 or any 2 of the following: ENG 090, ENG 080, and/or RED 090

Corequisites: None

This course is designed to develop proficiency in integrated and contextualized reading and writing skills and strategies. Topics include reading and writing processes, critical thinking strategies, and recognition and composition of well-developed, coherent, and unified texts; except where noted, these topics are taught using texts primarily in a Lexile®



This course covers the instructional assistant's role in the educational system. Topics include history of education, professional responsibilities and ethics, cultural diversity, communication skills, and identification of the optimal learning environment. Upon completion, students should be able to describe the supporting role of the instructional assistant, demonstrate positive communication skills, and discuss educational philosophy.

**EDU 119 Introduction to Early Child Education (Fall, Spring) 4 0 4**

Prerequisites: None

Corequisites: None

This course covers the instructional assistant's role in educational system. Emphasis is placed on history of education, professional responsibilities and ethics, culturally, linguistically, and ability diverse learners, communication skills with children, families, and colleagues, and understanding of evidence-based instructional strategies based on formative assessment.

**EDU 131 Child, Family and Community (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: DRE-097

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.

**EDU 144 Child Development I (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: DRE-097

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.

**EDU 145 Child Development II (Fall, Spring) 3 0 3**

Prerequisites: None Corequisites: DRE-097

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.

**EDU 146 Child Guidance (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: DRE-097

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.

**EDU 151 Creative Activities (Fall, Spring) 3 0 3**

Prerequisites: None Corequisites: DRE-097

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.

**EDU 153 Health, Safety and Nutrition (Spring) 3 0 3**

Prerequisites: None

Corequisites: DRE-097

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.

**EDU 184 Early Child Intro. Pract. (Fall, Spring) 1 3 2**

Prerequisites: EDU-119

Corequisites: DRE-097

This course introduces students to early childhood settings and applying skills in a three-star (minimum) or NAEYC accredited or equivalent, quality early childhood environment. Emphasis is placed on observing children and assisting in the implementation of developmentally appropriate activities/environments for all children; and modeling reflective/professional practices. Upon completion, students should be able to demonstrate developmentally appropriate interactions with children and ethical/professional behaviors as indicated by assignments and on site faculty visits.

**EDU 216 Foundations in Education (Fall, Spring) 4 0 4**

Prerequisites: None

Corequisites: DRE-098

This course introduces the American educational system and the teaching profession. Topics include the historical and philosophical influences on education, various perspectives on educational issues, and experiences in K-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. This is an approved articulation course for transfer between Nash Community College and East Carolina University as part of the ECU/SECU partnership.

**EDU 221 Children with Exceptionalities (Fall) 3 0 3**

Prerequisites: EDU-144 and EDU-145, or PSY-244 and PSY-245

Corequisites: DRE-098

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.

**EDU 222 Learners with Behavioral Disorders (Fall) 3 0 3**

Prerequisites: EDU-144 and EDU-145 or PSY-244 and PSY-245

Corequisites: DRE-098

This course provides a comprehensive study of learners with behavioral disorders encompassing characteristics, assessments, placement alternatives, inclusive environments and family interventions. Topics include etiology of behavior disorders, appropriate intervention strategies, early intervention/special education referral processes, family 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.

**EDU 259 Curriculum Planning (Fall, Spring) 3 0 3**

Prerequisites: EDU-119

Corequisites: DRE-098

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.

**EDU 261 Early Childhood Administration I (Fall) 3 0 3**

Prerequisites: None

Corequisites: DRE-098 and EDU-119

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.

**EDU 262 Early Childhood Administration II (Spring) 3 0 3**

Prerequisites: EDU-261

Corequisites: DRE-098 and EDU-119

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.

**EDU 271 Educational Technology (Fall) 2 2 3**

Prerequisites: EDU-119

Corequisites: DRE-098

This course introduces the ethical use of technology to enhance teaching and learning in all educational settings. Emphasis is placed on technology concepts, ethical issues, digital citizenship, instructional strategies, assistive technology, and the use of technology for professional development and communication. Upon completion, students should be able to discuss technology concepts, ethically use a variety of technology resources,

demonstrate appropriate technology skills in educational environments, and identify assistive technology.

**EDU 280 Language and Literacy Experiences (Fall) 3 0 3**

Prerequisites: EDU-119

Corequisites: DRE-098

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.

**EDU 282 Early Childhood Literature (Spring) 3 0 3**

Prerequisites: EDU-119

Corequisites: DRE-098

This course covers the history, selection, and integration of literature and language in the early childhood curriculum. Topics include the history and selection of developmentally appropriate children's literature and the use of books and other media to enhance language and literacy in the classroom. Upon completion, students should be able to select appropriate books for storytelling, reading aloud, puppetry, flannel board use, and other techniques for children who are culturally, linguistically, and ability diverse.

**EDU 284 Early Child Capstone Prac (Fall, Spring) 1 9 4**

Prerequisites: EDU-119, EDU-144, EDU-145, EDU-146, EDU-151, PSY-244, PSY-245, and EDU 259

Corequisites: DRE-098

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.

**EGR 125 Appl Software for Tech (Fall, Spring, Summer) 1 2 2**

Prerequisites: None

Corequisites: None

This course introduces personal computer software and teaches students how to customize the software for technical applications. Emphasis is placed on the use of common office applications software programs such as spreadsheets, word processing, graphics, and

internet access. Upon completion, students should be able to demonstrate competency in using applications software to solve technical problems and communicate the results in text and graphical formats.

**EGR 150 Introduction to Engineering (Fall) 1 2 2**

Prerequisites: None

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**EGR 210 Intro to Elec/Comp Eng Lab 1 3 2**

Prerequisites: Take All: MAT 271 and PHY 251

Corequisites: None

This course provides an overview of electrical and computer engineering, through a lecture and laboratory setting. Topics include fundamental concepts, electronic circuits, digital circuits, communication systems, and signal processing. Upon completion, students should be able to discuss the wide range of fields available to the electrical or computer engineer.

**EGR 212 Logic System Design I 3 0 3**

Prerequisites: Take All: MAT 271 and PHY 251

Corequisites: None

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, student should be able to analyze and design digital circuits and systems.

**EGR 215 Network Theory I 3 0 3**

Prerequisites: Take All: MAT 272 and PHY 251

Corequisites: Take PHY 252 and MAT 273

This course provides an introduction to Kirchoff's laws and terminal equations, circuit analysis techniques and network theorems, transient and natural response, and state variable analysis. Topics include Kirchoff's laws, Ohm's law, circuit analysis techniques, Network theorems, singularity functions, transient and natural responses, power, and state variable analysis. Upon completion, students should be able to analyze electric circuits involving capacitors, inductors, and resistors to determine required parameters.

**EGR 216 Logic and Network Lab 0 3 1**

Prerequisites: Take All: MAT 272 and PHY 251

Corequisites: Take EGR 212 and EGR 215



**ELC 111 Introduction to Electricity (Fall, Spring, Summer) 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronic majors. Topics include basic DC and AC principles (voltage, resistance, current, impedance); components (resistors, inductors and capacitors); power; and operation of test equipment. Upon completion, students should be able to construct and analyze simple DC and AC circuits using electrical test equipment.

**ELC 113 Residential Wiring I (Fall) 2 6 4**

Prerequisites: None

Corequisites: None

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 blueprint reading; planning, layout; and installation of electrical distribution equipment; lighting; overcurrent protection; conductors; branch circuits; and conduits. Upon completion, students should be able to properly install conduits, wiring, and electrical distribution equipment associated with basic electrical installations.

**ELC 113AB Residential Wiring I-AB (Fall) 1 3 2**

Prerequisites: None

Corequisites: None

The first of two parts of ELC 113.

**ELC 113BB Residential Wiring I-BB (Spring) 1 3 2**

Prerequisites: ELC 113AB

Corequisites: None

A continuation of ELC 113AB and final part of ELC 113.

**ELC 115 Industrial Wiring (Spring) 2 6 4**

Prerequisites: ELC 111 or ELC 113 or ELC 131

Corequisites: None

This course covers layout, planning, and installation of wiring systems in industrial facilities. Emphasis is placed on industrial wiring methods and materials. Upon completion, students should be able to install industrial systems and equipment.

**ELC 117 Motors and Controls (Fall, Spring) 2 6 4**

Prerequisites: ELC 111 or ELC 112 or ELC 131

Corequisites: None

This course introduces the fundamental concepts of motors and motor controls. Topics include ladder diagrams, pilot devices, contractors, motor starters, motors, and other control devices. Upon completion, students should be able to properly select, connect, and troubleshoot motors and control circuits.

**ELC 117AB Motors and Controls-AB (Fall) 1 3 2**

Prerequisites: ELC 111, ELC 112, or ELC 131

Corequisites: None

The first of two parts of ELC 117.

**ELC 117BB Motors and Controls-BB (Spring) 1 3 2**

Prerequisites: ELC 117AB

Corequisites: None

A continuation of ELC 117A and final part of ELC 117.

**ELC 126 Electrical Computations (Fall, Spring, Summer) 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces the fundamental applications of mathematics which are used by an electrical/electronics technician. Topics include whole numbers, fractions, decimals, powers, roots, simple electrical formulas, and usage of a scientific calculator. Upon completion, students should be able to solve simple electrical mathematical problems.

**ELC 131 Circuit Analysis I (Fall, Spring) 3 3 4**

Prerequisites: None

Corequisites: ELC 131A

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 software, and other related topics. Upon completion, students should be able to interpret circuit schematics; design, construct, verify, and analyze DC/AC circuits; and properly use test equipment.

**ELC 131AB Circuit Analysis-AB (Fall) 1 3 2**

Prerequisites: None

Corequisites: ELC 131A

The first of two parts of ELC 131.

**ELC 131BB Circuit Analysis-BB (Spring) 3 0 3**

Prerequisites: ELC 131AB

Corequisites: ELC 131A

A continuation of ELC 131AB and final part of ELC 131.

**ELC 131A Circuit Analysis I Lab (Fall, Spring) 0 3 1**

Prerequisites: None

Corequisites: ELC 131

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.

**ELC 213 Instrumentation (Spring) 3 2 4**

Prerequisites: ELC 112 or ELC 131

Corequisites: None

This course covers the fundamentals of instrumentation used in industry. Emphasis is placed on electric, electronic, and other instruments. Upon completion, students should be able to install, maintain, and calibrate instrumentation.

**ELC 228 PLC Applications (Fall) 2 6 4**

Prerequisites: ELC 128 or ELN 260

Corequisites: None

This course covers programming and applications of programmable logic controllers. Emphasis is placed on programming techniques, networking, specialty I/O modules, and system troubleshooting. Upon completion, students should be able to specify, implement, and maintain complex PLC controlled systems.

**ELC 228AB PLC Applications-AB (Fall) 1 3 2**

Prerequisites: ELC 128 or ELN 260

Corequisites: None

The first of two parts of ELC 228.

**ELC 228BB PLC Applications-BB (Spring) 1 3 2**

Prerequisites: ELC 228AB

Corequisites: None

A continuation of ELC 228AB and final part of ELC 228.

**ELC 231 Electric Power Systems (Fall) 3 2 4**

Prerequisites: ELC 111 or ELC 112 or ELC 131

Corequisites: None

This course covers the basic principles of electric power systems, including transmission lines, generator and transformer characteristics, and fault detection and correction. Emphasis is placed on line diagrams and per unit calculations for circuit performance analysis in regards to voltage regulation, power factor, and protection devices. Upon completion, students should be able to analyze simple distribution subsystems, calculate fault current, and determine the size and type of circuit protection devices.

**ELC 233 Energy Management (Spring) 2 2 3**

Prerequisites: ELC 231

Corequisites: None

This course covers energy management principles and techniques typical of those found in industry and commercial facilities, including load control and peak demand reduction systems. Topics include load and peak demand calculations, load shedding, load balance

and power factor, priority scheduling, remote sensing and control, and supplementary/alternative energy sources. Upon completion, students should be able to determine energy management parameters, calculate demand and energy use, propose energy management procedures, and implement alternative energy sources.

**ELN 131      Analog Electronics I (Spring)      3   3   4**

Prerequisites: ELC 112 or ELC 131

Corequisites: None

This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot discrete component circuits using appropriate techniques and test equipment.

**ELN 131AB      Analog Electronics I - AB (Fall)      1   3   2**

Prerequisites: ELC 112 or ELC 131

Corequisites: None

The first of two parts of ELN 131.

**ELN 131BB      Analog Electronics I - BB (Spring)      2   0   2**

Prerequisites: ELN 131AB

Corequisites: None

A continuation of ELN 131AB and final part of ELN 131.

**ELN 132      Analog Electronics II (Fall)      3   3   4**

Prerequisites: ELN 131

Corequisites: None

This course covers additional applications of analog electronic circuits with an emphasis on analog and mixed signal integrated circuits (IC). Topics include amplification, filtering, oscillation, voltage regulation, and other analog circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog electronic circuits using appropriate techniques and test equipment.

**ELN 132AB      Linear IC Applications - AB (Fall)      1   3   2**

Prerequisites: ELN 131

Corequisites: None

The first of two parts of ELN 132.

**ELN 132BB      Analog Electronics II - BB (Spring)      2   0   2**

Prerequisites: ELN 132AB Corequisites: None

A continuation of ELN 132AB and final part of ELN 132.

**ELN 133      Digital Electronics (Fall, Summer)      3   3   4**

Prerequisites: None

Corequisites: None



This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, medium scale integration (MSI) and large scale integration (LSI), analog to digital (AD) and digital to analog (DA) conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

**ELN 133AB Digital Electronics - AB (Fall) 1 3 2**

Prerequisites: None

Corequisites: None

The first of two parts of ELN 133.

**ELN 133BB Digital Electronics - BB (Spring) 2 0 2**

Prerequisites: ELN 133AB

Corequisites: None

A continuation of ELN 133AB and final part of ELN 133.

**ELN 229 Industrial Electronics (Spring) 3 3 4**

Prerequisites: ELC 112 or ELC 131

Corequisites: None

This course covers semiconductor devices used in industrial applications. Topics include the basic theory, application, and operating characteristics of semiconductor devices. Upon completion, students should be able to install and/or troubleshoot these devices for proper operation in an industrial electronic circuit.

**ELN 229AB Industrial Electronics-AB (Fall) 1 3 2**

Prerequisites: ELC 112 or ELC 131

Corequisites: None

The first of two parts of ELN 229.

**ELN 229BB Industrial Electronics-BB (Spring) 2 0 2**

Prerequisites: ELN 229AB

Corequisites: None

A continuation of ELN 229AB and final part of ELN 229.

**ELN 232 Introduction to Microprocessors (Spring) 3 3 4**

Prerequisites: ELN 133

Corequisites: None

This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

**ELN 232AB Introduction to Microprocessors-AB (Fall) 1 3 2**

Prerequisites: ELN 133

Corequisites: None

The first of two parts of ELN 232.

**ELN 232BB Introduction to Microprocessors-BB (Spring) 2 0 2**

Prerequisites: ELN 232AB

Corequisites: None

A continuation of ELN 232AB and final part of ELN 232.

**ELN 235 Data Communication Systems (Fall, Spring) 3 3 4**

Prerequisites: None

Corequisites: None

This course covers data communication systems and the transmission of digital information from source to destination. Topics include data transmission systems, interfaces and modems, protocols, networks, and other related topics. Upon completion, students should be able to demonstrate knowledge of the concepts associated with data communication systems.

**ELN 235AB Data Communication Systems-AB (Fall) 1 3 2**

Prerequisites: None

Corequisites: None

The first of two parts of ELN 235.

**ELN 235BB Data Communication Systems-BB (Spring) 2 0 2**

Prerequisites: ELN 235AB

Corequisites: None

A continuation of ELN 235AB and final part of ELN 235.

**ELN 236 Fiber Optics and Lasers (Spring) 3 2 4**

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of fiber optics and lasers. Topics include the transmission of light; characteristics of fiber optics and lasers and their systems; fiber optic production; types of lasers; and laser safety. Upon completion, students should be able to understand fiber optic communications and basic laser fundamentals.

**ELN 236AB Fiber Optics and Lasers-AB (Fall) 1 2 2**

Prerequisites: None

Corequisites: None

The first of two parts of ELN 236.

- ELN 236BB Fiber Optics and Lasers-BB (Spring)** 2 0 2  
 Prerequisites: ELN 236AB  
 Corequisites: None  
 A continuation of ELN 236AB and final part of ELN 236.
- ELN 237 Local Area Networks (Intermittently)** 2 3 3  
 Prerequisites: ELN 235  
 Corequisites: None  
 This course introduces the fundamentals of local area networks and their operation. Topics include the characteristics of network topologies, system hardware, system configuration, installation and operation of the LAN. Upon completion, students should be able to install and maintain a local area network.
- ELN 238 Advanced LANs (Intermittently)** 2 3 3  
 Prerequisites: ELN 237  
 Corequisites: None  
 This course covers advanced concepts, tools, and techniques associated with servers, workstations, and overall local area network performance. Topics include network security and configuration, system performance and optimization, communication protocols and packet formats, troubleshooting techniques, multi-platform integration, and other related topics. Upon completion, students should be able to use advanced techniques to install, manage, and troubleshoot networks and optimize server and workstation performance.
- ELN 260 Prog Logic Controllers (Spring, Summer)** 3 3 4  
 Prerequisites: None  
 Corequisites: None  
 This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.
- ELN 275 Troubleshooting (Summer)** 1 3 2  
 Prerequisites: ELN 131 and ELN 133  
 Corequisites: None  
 This course covers techniques of analyzing and repairing failures in electronic equipment. Topics include safety, signal tracing, use of service manuals, and specific troubleshooting methods for analog, digital, and other electronics-based circuits and systems. Upon completion, students should be able to logically diagnose and isolate faults and perform necessary repairs to meet manufacturers' specifications.

**ELT 111 Intro. to Electric Line Construction (Fall, Spring) 2 0 2**

Prerequisites: None

Corequisites: None

This course introduces basic principles of electricity, tools, and materials. Topics include electrical distribution systems and components and line installation and maintenance applications. Upon completion, students should be able to identify tools and explain their use in electrical distribution systems.

**ELT 111A Intro. to Electric Line Construction Lab (Fall, Spring) 0 6 2**

Prerequisites: None

Corequisites: ELT 111

This course provides a laboratory setting to enhance basic electric lineman skills. Emphasis is placed on integrating classroom learning with hands-on experience. Upon completion, students should be able to demonstrate employability and work-related skills required for electric line construction.

**ELT 112 National Electrical Safety Code (Spring) 2 2 3**

Prerequisites: None

Corequisites: None

This course covers the use of the current National Electrical Safety Code. Topics include terms, systems, meters, overhead and underground construction and maintenance procedures. Upon completion, students should be able to apply principles of the NESC.

**ELT 112AB National Electrical Safety Code-AB (Spring) 2 0 2**

Prerequisites: None

Corequisites: None

The First of two parts of ELT 112.

**ELT 112BB National Electrical Safety Code-BB (Spring) 0 2 1**

Prerequisites: None

Corequisites: None

A continuation of ELT 112 AB and the final part of ELT 112. The courses are not required to be taken in sequential order.

**ELT 114 Overhead Line Construction I (Fall, Spring) 2 0 2**

Prerequisites: ELT 111

Corequisites: None

This course introduces the basics of Power Line Construction. Topics include safe work habits, protective equipment, and pole climbing techniques. Upon completion, students should be able to identify, inspect, and use equipment and demonstrate climbing techniques.

<b>ELT 115</b>	<b>Overhead Line Construction II (Spring)</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: ELT 114				
Corequisites: None				
This course introduces line maintenance, construction, and framing. Topics include safe working practices and procedures of working off a pole using hooks. Upon completion, students should be able to construct a line and perform routine maintenance to specifications.				
<b>ELT 116</b>	<b>Overhead Line Construction III (Spring)</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: ELT 115				
Corequisites: None				
This course introduces the phase of energized line work. Topics include the use of aerial lifts and the application of rubber protective equipment. Upon completion, students will be able to delineate proper techniques of energized line work.				
<b>ELT 117</b>	<b>Overhead Line Construction IV (Spring)</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: ELT 116				
Corequisites: None				
This course introduces regulators, reclosures, and fuse coordination. Topics include these concepts as applied to substation operation. Upon completion, students should be able to explain the operation of bypass, reclosures, and regulators in distribution substation.				
<b>ELT 117AB</b>	<b>Overhead Line Construction IV-AB (Spring)</b>	<b>1</b>	<b>0</b>	<b>1</b>
Prerequisites: ELT 116				
Corequisites: None				
The first of two parts of ELT 117				
<b>ELT 117BB</b>	<b>Overhead Line Construction IV-BB (Spring)</b>	<b>1</b>	<b>0</b>	<b>1</b>
Prerequisites: ELT 116				
Corequisites: None				
A continuation of ELT 117 AB and the final part of ELT 117 The courses are not required to be taken in sequential order.				
<b>ELT 211</b>	<b>Underground Line Construction I (Fall, Spring)</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				
This course introduces grounding an underground distribution system. Topics include terminators, elbows, and transformers; underground installation, safety practices. Upon completion, students should be able to relate safety practices associated with URD systems and delineate proper underground system makeup.				
<b>ELT 212</b>	<b>Underground Line Construction II (Spring)</b>	<b>2</b>	<b>0</b>	<b>2</b>
Prerequisites: ELT 211				
Corequisites: None				



**ENG 111 Writing and Inquiry (Fall, Spring, Summer)****3 0 3**

Prerequisites: ENG 090 and RED 090, or ENG 095, or DRE 098

This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved for transfer under the ICAA and CAA as a general education course in English Composition. This course has been approved for transfer under the ICAA as a general education course in English. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 111-HN Writing and Inquiry- Honors (Intermittently)****3 0 3**

Prerequisites: Minimum Course Readiness Reading Assessment score of 96 or SAT score of 550 on critical reading portion or ACT score of 23 on the reading portion.

Corequisites: ACA 115 or ACA 122

This course is designed to develop the ability to produce clear writing in a variety of genres and formats using a recursive process. Emphasis includes inquiry, analysis, effective use of rhetorical strategies, thesis development, audience awareness, and revision. Upon completion, students should be able to produce unified, coherent, well-developed essays using standard written English. This course has been approved for transfer under the ICAA and CAA as a general education course in English Composition. This course has been approved for transfer under the ICAA as a general education course in English. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 112 Writing/Research in the Disciplines****3 0 3**

Prerequisites: ENG 111

Corequisites: None

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. This course has been approved for transfer under the ICAA and CAA as a general education course in English Composition. This is a Universal General Education Transfer Component (UGETC) course.

**3 0 3****ENG 112-HN Writing/Research in the Disciplines Honors (Intermittently)**

Prerequisites: ENG 111HN or permission of the Instructor

Corequisites: None

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. This course

has been approved for transfer under the ICAA and CAA as a general education course in English Composition. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 114 Professional Research and Reporting (Fall, Spring, Summer) 3 0 3**

Prerequisites: ENG 111 Corequisites: None

This course, the second in a series of two, is designed to teach professional communication skills. Emphasis is placed on research, listening, critical reading and thinking, analysis, interpretation, and design used in oral and written presentations. Upon completion, students should be able to work individually and collaboratively to produce well-designed business and professional written and oral presentations.

**ENG 125 Creative Writing I (Intermittently) 3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course is designed to provide students with the opportunity to practice the art of creative writing. Emphasis is placed on writing, fiction, poetry, and sketches. Upon completion, students should be able to craft and critique their own writing and critique the writing of others. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) or ICAA as a premajor and/or elective course requirement.

**ENG 126 Creative Writing II (Intermittently) 3 0 3**

Prerequisites: ENG 125

Corequisites: None

This course is designed as a workshop approach for advancing imaginative and literary skills. Emphasis is placed on the discussion of style, techniques, and challenges for first publications. Upon completion, students should be able to submit a piece of their writing for publication. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**ENG 231 American Literature I (Fall, Spring) 3 0 3**

Prerequisites: ENG 112 or ENG 113 or ENG 114

Corequisites: None

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. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 232 American Literature II (Fall, Spring) 3 0 3**

Prerequisites: ENG 112 or ENG 113 or ENG 114

Corequisites: None



This course covers selected works in American literature from 1865 to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to analyze and interpret literary works in their historical and cultural contexts. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 233 Major American Writers (Intermittently) 3 0 3**

Prerequisites: ENG 112 or ENG 113 or ENG 114

Corequisites: None

This course provides an intensive study of the works of several major American authors. Emphasis is placed on American history, culture, and their literary merits. Upon completion, students should be able to interpret, analyze, and evaluate the works studied. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**ENG 241 British Literature I (Intermittently) 3 0 3**

Prerequisites: ENG 112 or ENG 113 or ENG 114

Corequisites: None

This course covers selected works in British literature from its beginnings to the Romantic Period. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 242 British Literature II (Intermittently) 3 0 3**

Prerequisites: ENG 112 or ENG 113 or ENG 114

Corequisites: None

This course covers selected works in British literature from the Romantic Period to the present. Emphasis is placed on historical background, cultural context, and literary analysis of selected prose, poetry, and drama. Upon completion, students should be able to interpret, analyze, and respond to literary works in their historical and cultural contexts. This course has been approved for transfer under Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**ENG 253 The Bible as Literature (Intermittently) 3 0 3**

Prerequisites: ENG 112 or ENG 113 or ENG 114 Corequisites: None

This course introduces the Hebrew Old Testament and the Christian New Testament as works of literary art. Emphasis is placed on the Bible's literary aspects including history, composition, structure, and cultural contexts. Upon completion, students should be able to



**EPT 130 Mitigation and Preparedness (Fall)****3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the mitigation and preparation techniques and methods necessary to minimize the impact of natural, technological, and man-made disasters. Topics include hazard identification and mapping, design and construction applications, financial incentives, insurance, structural controls, preparation, planning, assessment, implementation, and exercises. Upon completion students should be able to develop a mitigation and preparedness plan.

**EPT 140 Emergency Management (Fall)****3 0 3**

Prerequisites: None

Corequisites: None

This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles of government agencies at all levels. Upon completion, student should be able to demonstrate an understanding of comprehensive emergency management and the integrated emergency management system.

**EPT 150 Incident Management (Fall)****3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the National Incident Management System (NIMS). Topics include integrating command and control systems, maintaining communication within command and control systems, and using NIMS procedures. Upon completion, students should be able to demonstrate knowledge of key concepts necessary for operating within the National Incident Management System.

**EPT 210 Response and Recovery (Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the basic concepts, operational procedures, and authorities involved in response and recovery efforts to major disasters. Topics include federal, state, and local roles and responsibilities in major disaster response and recovery work, with an emphasis on governmental coordination. Upon completion, students should be able to implement a disaster response plan and assess the needs of those involved in a major disaster.

**EPT 220 Terrorism and Emergency Management (Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course covers preparing for, responding to, and safely mitigating terrorism incidents. Topics include the history of terrorism, scene hazards, evidence preservation, risk assessment, roles and responsibilities, explosive recognition, and terrorism planning. Upon

completion, students should be able to recognize the threat of terrorism and operate within the emergency management framework at a terrorism incident.

**EPT 275      Emergency Operations Center Management (Fall)      3   0   3**

Prerequisites: None Corequisites: None

This course provides students with the knowledge and skills to effectively manage and operate an EOC during crisis situations. Topics include properly locating and designing an EOC, staffing, training and briefing EOC personnel, and how to operate and EOC. Upon completion, students should be able to demonstrate how to set up and operate an effective emergency operations center.

**ETR 210      Introduction to Entrepreneurship (Intermittently)      3   0   3**

Prerequisites: DRE 097

Corequisites: None

This course provides a survey of the starting and operating of an entrepreneurial venture. Topics include new venture creation, the business plan, economics of the business, determining resource needs and acquiring resources, marketing, technology, leadership skills, and business ethics. Upon completion, students should be able to demonstrate an understanding of entrepreneurship concepts and how to use the entrepreneurial mindset to succeed in their careers.

**FIP 120      Introduction to Fire Protection (Summer)      3   0   3**

Prerequisites: None

Corequisites: None

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

**FIP 124      Fire Protection & Public Ed. (Spring)      3   0   3**

Prerequisites: None

Corequisites: None

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

**FIP 132      Building Construction (Intermittently)      3   0   3**

Prerequisites: None

Corequisites: None

This course introduces fire prevention concepts as they relate to community and industrial operations referenced in NFPA standard 101. Topics include they development and maintenance of fire prevention programs, educational programs, and inspection programs.

Upon completion, students should be able to research, develop, and present a fire safety program to a citizens or industrial group.

**FIP 136 Inspection and Codes (Intermittently) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the fundamentals of fire and building codes and procedures to conduct an inspection. Topics include review of fire and building codes, writing inspection reports, identifying hazards, plan reviews, site sketches, and other related topics. Upon completion, students should be able to conduct a fire code compliance inspection and produce a written report.

**FIP 152 Fire Protection Law (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers fire protection law. Topics include torts, legal terms, contracts, liability, review of case histories, and other related topics. Upon completion, students should be able to discuss laws, codes, and ordinances as they relate to fire protection.

**FIP 176 HazMat: Operations (Intermittently) 4 0 4**

Prerequisites: None

Corequisites: None

This course is designed to increase first responder awareness of the type, nature, physiological effects of, and defensive techniques for mitigation of HazMat incidents. Topics include recognition, identification, regulations and standards, zoning, resource usage, defensive operations, and other related topics. Upon completion, students should be able to recognize and identify the presence of hazardous materials and use proper defensive techniques for incident mitigation.

**FIP 220 Fire Fighting Strategies (Intermittently) 3 0 3**

Prerequisites: None

Corequisites: None

This course provides preparation for command of initial incident operations involving emergencies within both the public and private sector. Topics include incident management, fire-ground tactics and strategies, incident safety, and command/control of emergency operations. Upon completion, students should be able to describe the initial incident system related to operations involving various emergencies in fire/non-fire situations, meeting NFPA 1021.

**FIP 220 AB Fire Fighting Strategies – AB (Spring) 2 0 2**

Prerequisites: None

Corequisites: None

The first of two parts of FIP 220.

**FIP 220 BB Fire Fighting Strategies – BB (Fall) 1 0 1**

Prerequisites: FIP 220AB

Corequisites: None

A continuation of FIP 220 AB and final part of FIP 220.

**FIP 228 Local Government Finance (Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces local governmental financial principles and practices. Topics include budget preparation and justification, revenue policies, statutory requirements, taxation, audits, and the economic climate. Upon completion, students should be able to comprehend the importance of finance as it applies to the operation of a department.

**FIP 236 Emergency Management (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the four phases of emergency management: mitigation, preparedness, response, and recovery. Topics include organizing for emergency management, coordinating for community resources, public sector liability, and the roles for government agencies at all levels. Upon completion, students should be able to demonstrate an understanding of comprehensive emergency management and the integrated emergency management system.

**FIP 240 Fire Service Supervision (Summer) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers supervisory skills and practices in the fire protection field. Topics include the supervisor's job, supervision skills, the changing work environment, managing change, organizing for results, discipline and grievances, and safety. Upon completion, students should be able to demonstrate an understanding of the roles and responsibilities of the fire service supervisor, meeting elements of NFPA 1021.

**FIP 276 Managing Fire Services (Summer) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers an overview of fire department operative services. Topics include finance, staffing, equipment, code enforcement, management information, specialized services, legal issues, planning, and other related topics. Upon completion, students should be able to understand concepts and apply fire department management and operations principles. A continuation of FIP 276AB and final part of FIP 276.

**FRE 111 Elementary French I (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the fundamental elements of the French language within a cultural context. Emphasis is placed on the development of basic listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with grammatical accuracy to spoken and written French and demonstrate cultural awareness. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**FRE 112 Elementary French II (Intermittently) 3 0 3**

Prerequisites: FRE 111

Corequisites: None

This course is a continuation of FRE 111 focusing on the fundamental elements of the French language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written French and demonstrate further cultural awareness. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**FRE 211 Intermediate French I (Intermittently) 3 0 3**

Prerequisites: FRE 112

Corequisites: None

This course provides a review and expansion of the essential skills of the French language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**FRE 212 Intermediate French II (Intermittently) 3 0 3**

Prerequisites: FRE 211

Corequisites: None

This course is a continuation of FRE 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**GEL 111 Geology (Intermittently) 3 2 4**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces basic landforms and geological processes. Topics include rocks, minerals, volcanoes, fluvial process, geological history, plate tectonics, glaciers, coastal dynamics. Upon completion, students should be able to describe basic geological processes that

shape the Earth. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a General Education Transfer Component (UGETC) course.

**GEO 111 World Regional Geography (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the regional concept that emphasizes the spatial association of people and their environment. Emphasis is placed on the physical, cultural, and economic systems that interact to produce the distinct regions of the earth. Upon completion, students should be able to describe variations in physical and cultural features of a region and demonstrate an understanding of their functional relationships. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**GRD 110 Typography I (Fall) 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces the history and mechanics of type and its application to layout and design. Topics include typographic fundamentals, anatomy, measurements, composition, identification, and terminology. Upon completion, students should be able to demonstrate proficiency in design application, analysis, specification, and creation of typographic elements.

**GRD 121 Drawing Fundamentals I (Fall) 1 3 2**

Prerequisites: None

Corequisites: None

This course increases observation skills using basic drawing techniques and media in graphic design. Emphasis is placed on developing the use of graphic design principles, media applications, spatial considerations, drawing styles, and approaches. Upon completion, students should be able to show competence and proficiency in finished works.

**GRD 131 Illustration I (Spring) 1 3 2**

Prerequisites: ART 131 or DES 125 or GRD 121

Corequisites: None

This course introduces the application of rendering techniques to create illustrations. Emphasis is placed on controlling various media, methods, surfaces, design problems, and the appropriate media selection process. Upon completion, students should be able to produce quality illustrations from conception through finished artwork.

**GRD 141 Graphic Design I (Fall) 2 4 4**

Prerequisites: None

Corequisites: None



This course introduces the conceptualization process used in visual problem solving. Emphasis is placed on learning the principles of design and on the manipulation and organization of elements. Upon completion, students should be able to apply design principles and visual elements to projects.

**GRD 142 Graphic Design II (Spring)**

**2 4 4**

Prerequisites: DES 135 or GRD 141 or ART 121

Corequisites: None

This course covers the application of visual elements and design principles in advertising and graphic design. Topics include creation of various designs, such as logos, advertisements, posters, outdoor advertising, and publication design. Upon completion, students should be able to effectively apply design principles and visual elements to projects.

**GRD 151 Computer Design Basics (Fall)**

**1 4 3**

Prerequisites: None

Corequisites: None

This course covers designing and drawing with various types of software applications for advertising and graphic design. Emphasis is placed on creative and imaginative use of space, shapes, value, texture, color, and typography to provide effective solutions to advertising and graphic design problems. Upon completion, students should be able to use the computer as a creative tool.

**GRD 152 Computer Design Tech I (Spring)**

**1 4 3**

Prerequisites: GRD 151

Corequisites: None

This course covers complex design problems utilizing various design and drawing software applications. Topics include the expressive use of typography, image, and organization to communicate a message. Upon completion, students should be able to use appropriate computer software to professionally present.

**GRD 160 Photo Fundamentals I (Fall)**

**1 4 3**

Prerequisites: None

Corequisites: None

This course introduces basic camera operations, roll film processing, and photographic print production. Topics include contrast, depth-of-field, subject composition, enlarger operation, and density control. Upon completion, students should be able to produce photographic prints with acceptable density values and quality.

**GRD 241 Graphic Design III (Fall)**

**2 4 4**

Prerequisites: DES 136 or GRD 142

Corequisites: None

This course is an advanced exploration of various techniques and media for advertising and graphic design. Emphasis is placed on advanced concepts and solutions to complex



**GRO 120 Gerontology (Fall)****3 0 0 3**

Prerequisites: None

Corequisites: None

This course covers the psychological, social, and physical aspects of aging. Emphasis is placed on the factors that promote mental and physical well-being. Upon completion, students should be able to recognize the aging process and its psychological, social, and physical aspects.

**GRO 220 Psy/Soc. Aspects of Aging (Spring)****3 0 0 3**

Prerequisites: PSY 150

Corequisites: None

This course covers the individual and social aspects of the aging process. Topics include psychological and social factors of aging; roles of older adults within families, work, and community; and adjustments to aging and retirement.

**GRO 230 Health Wellness & Nutrition (Spring)****3 2 0 4**

Prerequisites: None

Corequisites: None

This course covers the basic concepts of health, wellness, and nutrition related to aging. Emphasis is placed on nutrition and diet, physical activity and exercise, and maintenance of well-being. Upon completion, students should be able to identify health, wellness, and nutrition concepts related to aging.

**HBI 110 Issues and Trends in HBI (Spring)****3 0 0 3**

Prerequisites: None

Corequisites: None

This course is a survey of current and emerging technology applications and data standards in the healthcare industry. Topics include history, implementation, use, management, and impact of information technology in healthcare settings. Upon completion, students should have an understanding of the current trends and issues in healthcare informatics.

**HBI 113 Survey of Med Insurance (Fall, Spring)****3 0 0 3**

Prerequisites: None

Corequisites: None

This course is a survey of the healthcare insurance systems. Emphasis is placed on the foundation necessary for understanding the healthcare delivery system, terminology and practices of healthcare insurance, and provider reimbursement. Upon completion, students should have an understanding of healthcare insurance and how outcomes are addressed through healthcare informatics.

**HBI 250 Data Management & Utilization (Fall)****2 2 0 3**

Prerequisites: DBA 110

Corequisites: None

This course covers the management and usage of data in healthcare settings according to current practices in healthcare informatics. Topics include data warehousing, data integrity, data security, data mining, and report generating in healthcare settings. Upon completion, students should be able to demonstrate and understanding of using healthcare data to support reporting and decision making in healthcare settings.

**HEA 110 Personal Health/Wellness (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course provides an introduction to basic personal health and wellness. Emphasis is placed on current health issues such as nutrition, mental health, and fitness. Upon completion, students should be able to demonstrate an understanding of the factors necessary to the maintenance of health and wellness. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**HEA 112 First Aid and CPR (Fall, Spring) 1 2 2**

Prerequisites: None

Corequisites: None

This course introduces the basics of emergency first aid treatment. Topics include rescue breathing, CPR, first aid for choking and bleeding, and other first aid procedures. Upon completion, students should be able to demonstrate skills in providing emergency care for the sick and injured until medical help can be obtained. This course has been approved to satisfy the Comprehensive Articulation Agreement for transferability as a premajor and/or elective course requirement.

**HIS 111 World Civilizations I (Fall, Spring, Summer) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces world history from the dawn of civilization to the early modern era. Topics include Eurasian, African, American, and Greco-Roman civilizations and Christian, Islamic and Byzantine cultures. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in pre-modern world civilizations. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences. This is a Universal General Education Transfer Component (UGETC) course.

**HIS 112 World Civilizations II (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces world history from the early modern era to the present. Topics include the cultures of Africa, Europe, India, China, Japan, and the Americas. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern world civilizations. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education

course in Social/Behavioral Sciences. This is a Universal General Education Transfer Component (UGETC) course.

**HIS 116 Current World Problems (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers current world events from an historical perspective. Topics include regional problems as well as international concerns. Upon completion, students should be able to analyze significant current world problems from an historical perspective. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**HIS 121 Western Civilization I (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces western civilization from pre-history to the early modern era. Topics include ancient Greece, Rome, and Christian institutions of the Middle Ages and the emergence of national monarchies in Western Europe. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early western civilization. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**HIS 122 Western Civilization II (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces western civilization from the early modern era to the present. Topics include the religious wars, the Industrial Revolution, World Wars I and II, and the Cold War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in modern western civilization. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**HIS 131 American History I (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course is a survey of American history from pre-history through the Civil War era. Topics include the migrations to the Americas, the colonial and revolutionary periods, the development of the Republic, and the Civil War. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in early American history. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences. This is a Universal General Education Transfer Component (UGETC) course.

**HIS 132 American History II (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097 Corequisites: None

This course is a survey of American history from the Civil War era to the present. Topics include industrialization, immigration, the Great Depression, the major American wars, the Cold War, and social conflict. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in American history since the Civil War. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences. This is a Universal General Education Transfer Component (UGETC) course.

**HIS 145 The Second World War (Intermittently) 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course covers the period of the Second World War from 1919 to 1945. Topics include the Treaty of Versailles, the rise of totalitarian regimes, the origins of the war, the major military campaigns in Europe and the Pacific, and the aftermath. Upon completion, students should be able to analyze significant political, military, socioeconomic, and cultural developments that influenced the Second World War. This course has been approved for transfer under The Comprehensive Articulation Agreement (CAA) and the ICAA as a pre-major and/or elective course requirement.

**HIS 162 Women and History (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course surveys the experience of women in historical perspective. Topics include the experiences and contributions of women in culture, politics, economics, science, and religion. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural contributions of women in history. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**HIS 211 Ancient History (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course traces the development of the cultural, intellectual, and political foundations of western civilization. Topics include the civilizations of the Near East, the classical Greek and Hellenistic eras, the Roman world, Judaism, and Christianity. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the ancient world. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**HIS 221 African-American History (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None



This course is a study of geographical, political, economic, and social conditions existing in North Carolina from America's discovery to the present. Topics include native and immigrant backgrounds; colonial, antebellum, and Reconstruction periods; party politics; race relations; and the transition from an agrarian to an industrial economy. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in North Carolina. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**HIS 261 East Asian History (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

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. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**HIS 262 Middle East History (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course surveys the history of the Middle East from the development of civilization in Mesopotamia to the present. Emphasis is placed on social, political, economic, religious, and governmental structures in the Middle East. Upon completion, students should be able to analyze significant political, socioeconomic, and cultural developments in the Middle East. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**HMT 110 Intro to Healthcare Management (Fall) 3 0 0 3**

Prerequisites: None

Corequisites: None

This course introduces the functions, practices, organizational structures, and professional issues in healthcare management. Emphasis is placed on planning, controlling, directing, and communications within health and human services organizations. Upon completion, students should be able to apply the concepts of management within a healthcare service environment.

**HOR 245 Horticulture Specialty Crops (Fall) 2 2 3**

Prerequisites: None

Corequisites: None

This course introduces the techniques and requirements for the production of horticultural crops of special or local interest. Topics include development of a local market, proper varietal selection, cultural practices, site selection, and harvesting and marketing practices.



Upon completion, students should be able to choose, grow, and market a horticultural crop of special or local interest.

**HRM 110 Introduction to Hospitality and Tourism (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the growth and progress of the hospitality industry. Topics include tourism, lodging, resorts, gaming, restaurants, foodservice, and clubs. Upon completion, students should be able to demonstrate an understanding of the background, context, and career opportunities that exist within the hospitality industry.

**HRM 120 Front Office Procedures (Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces a systematic approach to lodging front office procedures. Topics include reservations, registration, guest satisfaction, occupancy and revenue management, security, interdepartmental communications, and related guest services. Upon completion, students should be able to demonstrate a basic understanding of current front office operating systems, including efficient and courteous guest services.

**HRM 130 Bed and Breakfast Management (Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course provides an overview of the management of bed and breakfast facilities. Emphasis is placed on lifestyle commitment, property needs, computer operations, business and marketing plans, customer service and facility management. Upon completion, students should be able to describe and apply the principles of management unique to the bed and breakfast industry.

**HRM 140 Legal Issues-Hospitality (Fall) 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course covers the rights and responsibilities that the law grants to or imposes upon the hospitality industry. Topics include federal and state regulations, historical and current practices, safety and security, risk management, loss prevention, relevant torts, and contracts. Upon completion, students should be able to demonstrate an understanding of the legal system and the concepts necessary to prevent or minimize organizational liability.

**HRM 210 Meetings and Event Planning (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces concepts related to the planning and operation of conventions, trade shows, professional meetings, and foodservice events. Emphasis is placed on methods of marketing, selling, organizing, and producing conventions, events, and trade shows

that will increase financial and environmental value. Upon completion, students should be able to demonstrate an understanding of management principles for multi-function, multi-day conferences and events.

**HRM 215 Restaurant Management (Spring) 3 0 3**

Prerequisites: CUL 135 or HRM 124

Corequisites: HRM 215A

This course provides an overview of the responsibilities and activities encountered in managing a food and beverage operation. Topics include planning, organization, accounting, marketing, trends, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate an understanding of the operation of a restaurant.

**HRM 215A Restaurant Management Lab (Spring) 0 2 1**

Prerequisites: CUL 135 or HRM 124

Corequisites: HRM 215

This course provides a laboratory experience for enhancing student skills in the responsibilities and activities encountered in managing a food and beverage operation. Emphasis is placed on practical applications of planning, organization, accounting, marketing, trends, and human resources from an integrated managerial viewpoint. Upon completion, students should be able to demonstrate a basic proficiency in restaurant management operations which may include overseeing and execution of production and service.

**HRM 220 Cost Control - Food and Beverage (Spring) 3 0 3**

Prerequisites: DMA 010, DMA 020, DMA 030, DMA 040

Corequisites: None

This course introduces controls and accounting procedures as applied to costs in the hospitality industry. Topics include reports, cost control, planning and forecasting, control systems, financial statements, operational efficiencies, labor controls, and scheduling. Upon completion, students should be able to demonstrate an understanding of food, beverage, and labor cost control systems for operating troubleshooting and problem solving.

**HRM 225 Beverage Management (Fall) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the management of beverages served in hospitality operations. Topics include history and trends; service, procurement, and storage; knowledge and control of wines and fermented/distilled beverages; and non-alcoholic beverages, coffees, and teas. Upon completion, students should be able to demonstrate an understanding of responsible alcohol service and the knowledge of beverages consumed in a hospitality operation.

**HRM 240 Marketing for Hospitality (Spring)****3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course covers planning, organizing, directing, and analyzing the results of marketing programs for the hospitality industry. Emphasis is placed on target marketing, marketing mix, analysis, product and image development, use of current media, sales planning, advertising, public relations, and collateral materials. Upon completion, students should be able to apply the marketing process as it relates to the hospitality industry.

**HRM 245 Human Resource Management - Hospitality (Fall)****3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course introduces a systematic approach to human resource management in the hospitality industry. Topics include training/development, staffing, selection, hiring, recruitment, evaluation, benefit administration, employee relations, labor regulations/laws, discipline, motivation, productivity, shift management, contract employees, and organizational culture. Upon completion, students should be able to apply human resource management skills for the hospitality industry.

**HRM 280 Management Problems - Hospitality (Spring)****3 0 3**

Prerequisites: HRM 110, DRE 097

Corequisites: None

This course is designed to introduce students to timely issues within the hospitality industry and is intended to move students into a managerial mindset. Emphasis is placed on problem-solving skills using currently available resources. Upon completion, students should be able to demonstrate knowledge of how hospitality management principles may be applied to real challenges facing industry managers.

**HSE 110 Intro to Human Services****2 2 0 3**

Prerequisites: None

Corequisites: None

This course introduces the human services field, including the history, agencies, roles, and careers. Topics include personal/professional characteristics, diverse populations, community resources, and disciplines in the field, systems, ethical standards, and major theoretical and treatment approaches. Upon completion, students should be able to identify the knowledge, skills, and roles of the human services worker.

**HSE 112 Group Process I****1 2 0 2**

Prerequisites: None

Corequisites: None

This course introduces interpersonal concepts and group dynamics. Emphasis is placed on self-awareness facilitated by experiential learning in small groups with analysis of personal experiences and the behavior of others. Upon completion, students should be able to show



**HUM 110 Technology and Society (Intermittently)****3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course considers technological change from historical, artistic, and philosophical perspectives and its effect on human needs and concerns. Emphasis is placed on the causes and consequences of technological change. Upon completion, students should be able to critically evaluate the implications of technology. This course has been approved to satisfy the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HUM 115 Critical Thinking (Fall, Spring)****3 0 3**

Prerequisites: None

Corequisites: ENG 111

This course introduces the use of critical thinking skills in the context of human conflict. Emphasis is placed on evaluating information, problem solving, approaching cross-cultural perspectives, and resolving controversies and dilemmas. Upon completion, students should be able to demonstrate orally and in writing the use of critical thinking skills in the analysis of appropriate texts. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in the Humanities/Fine Arts. This course may meet the SACS humanities requirement for AAS degree programs.

**HUM 120 Cultural Studies (Fall, Spring)****3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the distinctive features of a particular culture. Topics include art, history, music, literature, politics, philosophy, and religion. Upon completion, students should be able to appreciate the unique character of the study culture. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HUM 130 Myth in Human Culture (Intermittently)****3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an in-depth study of myths and legends. Topics include the varied sources of myths and their influence on the individual and society within diverse cultural contexts. Upon completion, students should be able to demonstrate a general familiarity with myths and a broad-based understanding of the influence of myths and legends on modern culture. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HUM 150 American Women's Studies (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an inter-disciplinary study of the history, literature, and social roles of American women from Colonial times to the present. Emphasis is placed on women's roles as reflected in American language usage, education, law, the workplace, and mainstream culture. Upon completion, students should be able to identify and analyze the roles of women as reflected in various cultural forms. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HUM 160 Introduction to Film (Intermittently) 2 2 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the fundamental elements of film artistry and production. Topics include film styles, history, and production techniques, as well as the social values reflected in film art. Upon completion, students should be able to critically analyze the elements covered in relation to selected films. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HUM 180 International Cultural Exploration (Intermittently) 2 3 3**

Prerequisites: DRE 097

Corequisites: None

This course provides a framework for students to visit, examine, and analyze a country/region outside the United States to learn about the place and people. Upon completion, students should be able to identify similarities/differences, analyze causes/effects, and clearly articulate the impact of one or more cultural elements. This course has been approved for transfer under The Comprehensive Articulation Agreement (CAA) and the ICAA as a pre-major and/or elective course requirement.

**HUM 211 Humanities I (Intermittently) 3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from ancient through early modern times. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studied. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HUM 212 Humanities II (Intermittently)****3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course introduces the humanities as a record in literature, music, art, history, religion, and philosophy of humankind's answers to the fundamental questions of existence. Emphasis is placed on the interconnectedness of various aspects of cultures from early modern times to the present. Upon completion, students should be able to identify significant figures and cultural contributions of the periods studies. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**HYD 110 Hydraulics/Pneumatics I (Fall)****2 3 3**

Prerequisites: DMA 010, DMA 020, and DMA 030

Corequisites: None

This course introduces the basic components and functions of hydraulic and pneumatic systems. Topics include standard symbols, pumps, control valves, control assemblies, actuators, FRL, maintenance procedures, and switching and control devices. Upon completion, students should be able to understand the operation of a fluid power system, including design, application, and troubleshooting.

**HYD 110AB Hydraulics/Pneumatics I-AB (Fall)****2 0 2**

Prerequisites: DMA 010, DMA 020 and DMA 030, and DMA 040

Corequisites: None

The first of two parts of HYD 110.

**HYD 110BB Hydraulics/Pneumatics I-BB (Spring)****0 3 1**

Prerequisites: HYD 110AB

Corequisites: None

A continuation of HYD 110AB and final part of HYD 110.

**INT 110 International Business (Fall)****3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course provides an overview of the environment, concepts, and basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, governmental influences on trade and strategies, international organizations, multinational corporations, personnel management, and international marketing. Upon completion, students should be able to describe the foundation of international business.

**ISC 112 Industrial Safety (Fall, Spring)****2 0 2**

Prerequisites: None

Corequisites: None

This course introduces the principles of industrial safety. Emphasis is placed on industrial safety and OSHA and environmental regulations. Upon completion, students should be

able to demonstrate knowledge of a safe working environment and OSHA compliance. This course meets the OSHA requirement for the 30 hour general industry outreach training and students are eligible to receive an OSHA-issued completion card.

**LOG 110 Introduction to Logistics (Intermittently) 3 0 3**

Prerequisites: None

Corequisites: None

This course provides an overview of logistics. Topics include traffic management, warehousing, inventory control, material handling, global logistics, and the movement and storage of goods from raw materials sources to end consumers. Upon completion, students should be able to identify the different segments of logistics and use the terminology of the industry.

**LOG 125 Transportation Logistics (Intermittently) 3 0 3**

Prerequisites: None

Corequisites: None

This course covers the role and importance of the transportation industry. This is an overview of transportation emphasizing its environmental and sociological aspects, economic impact, services, regulatory guidelines, policies, and its future. Upon completion, students should be able to identify modes of transportation, interpret governing regulations, and describe the principles and terminology used in the transportation industry.

**LOG 211 Distribution Management (Intermittently) 2 2 3**

Prerequisites: LOG 110

Corequisites: None

This course covers the functions, techniques, and tools utilized in warehousing and distribution centers and their role in business and logistics. Emphasis is placed on warehouse and distribution center management, operations, productivity, software systems, picking, automation, cross docking, safety, security, material handling, benchmarking, and cost. Upon completion, students should be able to describe the role of warehouses and distribution centers, apply industry principles and terminology, and understand distribution productivity measures.

**LOG 215 Supply Chain Management (Intermittently) 3 0 3**

Prerequisites: LOG 110

Corequisites: None

This course covers all activities involved in the flow of products and information between the suppliers, customers, producers, and service providers. Topics include acquiring, purchasing, manufacturing, assembling, and distributing goods and services throughout the supply chain organizations. Upon completion, students should be able to identify the supply chain units and describe the materials management processes.



**LOG 225     Logistics Systems (Intermittently)****3   2   4**

Prerequisites: LOG 215

Corequisites: None

This course covers the design, implementation, and application of logistics software systems utilized by businesses to improve accountability, and capabilities of their logistics processes. Emphasis is placed on an in-depth understanding of logistical software applications, optimization models, automated data collection, electronic data interchange, and other logistics software tools. Upon completion, students should be able to identify the various logistics software applications and explain how they are utilized to improve business and logistics processes.

**LOG 235     Import/Export Management (Intermittently)****3   0   3**

Prerequisites: LOG 125

Corequisites: None

This course introduces the elements of import and export operations, from transportation to documentation, finance, and security and the effects on the global supply chain. Emphasis is placed on existing import/export regulations, customs documentation, intermodal transportation, foreign freight forwarders, global technology, and homeland security initiatives. Upon completion, students should be able to perform import/export operations, channels of distribution, implemented technologies, and associate with operating a secure supply chain.

**LOG 240     Purchasing Logistics (Intermittently)****3   0   3**

Prerequisites: LOG 110

Corequisites: None

This course introduces the various aspects of purchasing, and their impact on materials management, supply chain, transportation, and global logistics processes. Emphasis is placed on the different methods of electronic sourcing, negotiating and pricing principles, and on the internal and external considerations associated with international logistics. Upon completion, students should be able to describe and apply the principles and terminology used in procurement including electronic data interchange services, purchasing and logistics systems.

**LOG 250     Advanced Global Logistics (Intermittently)****3   2   4**

Prerequisites: LOG 125

Corequisites: None

This course covers the advanced application of global operations and logistics strategies, planning, technology, risk, and management necessary to cope with the global business environment. Emphasis is placed on an in-depth understanding of global sourcing, shipping, tracking, and e-logistics systems necessary to operate inbound/outbound logistics in a global market. Upon completion, students should be able to identify the different global markets and logistics technology available to process international inbound/outbound logistics transactions.

**MAC 121 Introduction to CNC (Fall)**

**2 0 2**

Prerequisites: None

Corequisites: None

This course introduces the concepts and capabilities of computer numerical control machine tools. Topics include set-up, operation, and basic applications. Upon completion, students should be able to explain operator safety, machine protection, data input, program preparation, and program storage.

**MAC 122 CNC Turning (Fall)**

**1 3 2**

Prerequisites: MAC 121

Corequisites: None

This course introduces the programming, setup, and operation of CNC turning centers. Topics include programming formats, control functions, program editing, part production, and inspection. Upon completion, students should be able to manufacture simple parts using CNC turning centers.

**MAC 124 CNC Milling (Spring)**

**1 3 2**

Prerequisites: MAC 121

Corequisites: None

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.

**MAC 141 Machining Applications I (Fall)**

**2 6 4**

Prerequisites: None

Corequisites: None

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, setup 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.

**MAC 141A Machining Applications I Lab (Fall)**

**0 6 2**

Prerequisites: None

Corequisites: MAC 141

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.

**MAC 142 Machining Applications II (Spring) 2 6 4**

Prerequisites: MAC 141

Corequisites: None

This course provides instruction in the wide variety of processes associated with machining. Topics include safety, equipment set-up, holding fixtures, tooling, cutting speeds and depths, metal properties, and proper finishes. Upon completion, students should be able to safely demonstrate advanced machining operations, accurately measure components, and produce accurate components with a proper finish.

**MAC 142A Machining Applications II Lab (Spring) 0 6 2**

Prerequisites: MAC 141

Corequisites: MAC 142

This course provides laboratory instruction in the wide variety of processes associated with machining. Topics include safety, equipment setup, holding fixtures, tooling, cutting speeds and depths, metal properties, and proper finishes. Upon completion, students should be able to safely demonstrate advanced machining operations, accurately measure components, and produce accurate components with a proper finish.

**MAC 143 Machining Applications III (Summer) 2 6 4**

Prerequisites: MAC 142 and MAC 142A

Corequisites: None

This course provides instruction in the field of advanced machining. Emphasis is placed on creating complex components, close-tolerance machining, precise measurement, and proper equipment usage. Upon completion, students should be able to demonstrate the ability to produce an accurately machined component with a quality finish using the proper machining process.

**MAC 151 Machining Calculations (Fall) 1 2 2**

Prerequisites: None

Corequisites: None

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.

**MAC 152 Advanced Machining Calculations (Spring) 1 2 2**

Prerequisites: MAC 151

Corequisites: None

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.

**MAC 171 Measure/Material & Safety (Fall) 0 2 1**

Prerequisites: None

Corequisites: None

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

**MAC 222 Advanced CNC Turning (Spring) 1 3 2**

Prerequisites: MAC 122 and MEC 231

Corequisites: None

This course covers advanced methods in setup and operation of CNC turning centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC turning centers.

**MAC 224 Advanced CNC Milling (Fall) 1 3 2**

Prerequisites: MAC 124

Corequisites: None

This course covers advanced methods in setup and operation of CNC machining centers. Emphasis is placed on programming and production of complex parts. Upon completion, students should be able to demonstrate skills in programming, operations, and setup of CNC machining centers.

**MAC 226 CNC EDM Machining (Spring) 1 3 2**

Prerequisites: MAC 121 and MEC 231

Corequisites: None

This course introduces the programming, setup, and operation of CNC electrical discharge machines. Topics include programming formats, control functions, program editing, production of parts, and inspection. Upon completion, students should be able to manufacture simple parts using CNC electrical discharge machines.

**MAC 234 Advanced Multi-Axis Machining (Spring) 2 3 3**

Prerequisites: MAC 224 and MEC 231

Corequisites: None

This course includes multi-axis machining using machining centers with multi-axis capabilities. Emphasis is placed on generation of machining center input with a CAM system and setup and operation of pallet changer and rotary system for multi-axis machining fixtures. Upon completion, students should be able to convert CAD to output for multi-axis machining centers, including tooling, setup, and debugging processes.

**MAC 241 Jigs and Fixtures I (Fall)****2 6 4**

Prerequisites: MAC 142

Corequisites: None

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.

**MAC 241AB Jigs and Fixtures I-AB (Fall)****1 3 2**

Prerequisites: MAC 142

Corequisites: None

The first of two parts of MAC 241.

**MAC 241BB Jigs and Fixtures I-BB (Spring)****1 3 2**

Prerequisites: MAC 241AB

Corequisites: None

A continuation of MAC 241AB and final part of MAC 241.

**MAC 247 Production Tooling (Spring)****2 0 2**

Prerequisites: MAC 141

Corequisites: None

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.

**MAC 248 Production Procedures (Spring)****1 2 2**

Prerequisites: MAC 122, MAC 124, and MEC 231

Corequisites: None

This course covers product planning and control and scheduling and routing of operations. Topics include cost-effective production methods, dimensional and statistical quality control, and the tooling and machines required for production. Upon completion, students should be able to plan, set up, and produce cost-effective quality machined parts.

**MAT 110 Math Measurement & Literacy (Fall, Spring)****2 2 3**

Prerequisites: MAT 060 or DMA 010, 020, and 030

Corequisites: None

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.

**MAT 121 Algebra/Trigonometry I (Fall, Spring) 2 2 3**

Prerequisites: DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, and DMA 060

Corequisites: None

This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include 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.

**MAT 122 Algebra/Trigonometry II (Fall, Spring) 2 2 3**

Prerequisites: MAT 121

Corequisites: None

This course is designed to cover concepts in algebra, function analysis, and trigonometry. Topics include exponential and logarithmic functions, transformations of functions, Law of Sines, Law of Cosines, vectors and statistics. Upon completion, students should be able to demonstrate the ability to use mathematics and technology for problem-solving, analyzing and communicating results.

**MAT 141 Mathematical Concepts I (Intermittently) 3 0 3**

Prerequisites: MAT 070 or DMA 010, DMA 020, DMA 030, and DMA 040; or MAT 121 or MAT 171

Corequisites: None

This course is the first of a two-course sequence that develops a deeper understanding and appreciation of the basic concepts of mathematics. Emphasis is placed on sets, logic, number bases, elementary number theory, introductory algebra, measurement including metrics, and problem solving. Upon completion, students should be able to communicate orally and in writing these basic mathematical concepts. Under the CAA and ICAA, this course satisfies the general education Mathematics requirement for the AA degree. It does not satisfy the general education Mathematics requirement for the AS degree.

**MAT 142 Mathematical Concepts II (Intermittently) 3 0 3**

Prerequisites: MAT 141

Corequisites: None

This course is the second of a two-course sequence that develops a deeper understanding and appreciation of the basic concepts of mathematics. Emphasis is placed on probability, statistics, functions, introductory geometry, and mathematics of finance. Upon completion, students should be able to communicate orally and in writing these basic mathematical concepts and utilize technology as a mathematical tool. Under the CAA and ICAA, this course satisfies the general education Mathematics requirement for the AA degree. It does not satisfy the general education Mathematics requirement for the AS degree.

**MAT 143 Quantitative Literacy (Fall, Spring, Summer) 2 2 3**

Prerequisites: MAT 070 or DMA 010, DMA 020, DMA 030, DMA 040, and DMA 050, and DRE 098

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

**MAT 152 Statistical Methods I (Fall, Spring, Summer) 3 2 4**

Prerequisites: MAT 070 or DMA 010, DMA 020, DMA 030, DMA 040, and DMA 050, and DRE 098

Corequisites: None

This course provides a project-based approach to introductory statistics with 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. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

**MAT 171 Precalculus Algebra (Fall, Spring, Summer) 3 2 4**

Prerequisites: MAT 080 or DMA 010, DMA 020, DMA 030, DMA 040, DMA 050, DMA 060, DMA 070, DMA 080, or MAT 121

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

**MAT 172 Precalculus Trigonometry (Fall, Spring, Summer) 3 2 4**

Prerequisites: MAT 171

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

**MAT 263 Brief Calculus (Fall, Spring, Summer) 3 2 4**

Prerequisites: MAT 171

Corequisites: None

This course is designed to introduce concepts of differentiation and integration and their application 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. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

**MAT 271 Calculus I (Fall, Spring) 3 2 4**

Prerequisites: MAT 172

Corequisites: None

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. This course has been approved for transfer under the CAA and ICAA as a general education course in Mathematics. This is a Universal General Education Transfer Component (UGETC) course.

**MAT 272 Calculus II (Spring) 3 2 4**

Prerequisites: MAT 271

Corequisites: None

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. This course has been approved for transfer under





equipment setup. Upon completion, students should be able to produce parts using CAD/CAM applications.

**MEC 231AB Computer-Aided Manufacturing I-AB (Fall) 1 2 2**

Prerequisites: DFT 119

Corequisites: None

The first of two parts of MEC 231.

**MEC 231BB Computer-Aided Manufacturing I-BB (Spring) 0 2 1**

Prerequisites: MEC 231AB

Corequisites: None

A continuation of MEC 231AB and final part of MEC 231.

**MEC 232 Computer-Aided Manufacturing II (Spring) 1 4 3**

Prerequisites: MEC 231

Corequisites: None

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.

**MEC 232AB Computer-Aided Manufacturing II-AB (Fall) 1 2 2**

Prerequisites: MEC 231

Corequisites: None

The first of two parts of MEC 232.

**MEC 232BB Computer-Aided Manufacturing II-BB (Spring) 0 2 1**

Prerequisites: MEC 232AB

Corequisites: None

A continuation of MEC 232AB and final part of MEC 232.

**MED 110 Orientation to Medical Assist (Fall) 1 0 1**

Prerequisites: Admission to MA Program

Corequisites: MED 130, MED 131, ACA 122, BIO 163, CIS 110, OST 141

This course covers the history of medicine and the role of the medical assistant in the health care setting. Emphasis is placed on professionalism, communication, attitude, behaviors, and duties in the medical environment. Upon completion, students should be able to project a positive attitude and promote the profession of medical assisting.

**MED 120 Survey of Medical Terminology 2 0 2**

Prerequisites: None

Corequisites: None

This course introduces the vocabulary, abbreviation, 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.

**MED 121 Medical Terminology I 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces prefixes, suffixes, and word roots. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define accepted medical terms as related to selected body systems and their pathological disorders.

**MED 122 Medical Terminology II 3 0 3**

Prerequisites: MED 121

Corequisites: None

This course is the second in a series of medical terminology courses. Topics include medical vocabulary and the terms that relate to the anatomy, physiology, pathological conditions, and treatment of selected systems. Upon completion, students should be able to pronounce, spell, and define accepted medical terms as related to selected body systems and their pathological disorders.

**MED 130 Administrative Office Procedures I (Fall) 1 2 2**

Prerequisites: Admission to MA Program

Corequisites: MED 110, MED 131, ACA 122, BIO 163, CIS 110, OST 141

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.

**MED 131 Administrative Office Procedures II (Spring) 1 2 2**

Prerequisites: MED 130

Corequisites: MED 110, MED 130, ACA 122, BIO 163, CIS 110, OST 141

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.

**MED 140 Exam Room Procedures I (Spring) 3 4 5**

Prerequisites: MED 110, MED 130, MED 131, ACA 122, BIO 163, CIS 110, OST 141

Corequisites: MED 150, ENG 111, OST 142, OST 149

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.



test results. Upon completion, students should be able to recognize how certain symptoms relate to specific diseases, recognize emergency situations, and take appropriate actions.

**MED 272 Drug Therapy (Spring) 3 0 3**

Prerequisites: MED 240, MED 270, MAT 110, OST 148

Corequisites: COM 110, HUM/FA Elective, MED 274 or OST 247 and OST 248

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.

**MED 274 Diet Therapy / Nutrition 3 0 3**

Prerequisites: MED 240, MED 270, MAT 110, OST 148

Corequisites: MED 272, COM 110, HUM/FA Elective

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.

**MKT 120 Principles of Marketing (Fall, Spring) 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course introduces principles and problems of marketing goods and services. Topics include promotion, placement, and pricing strategies for products. Upon completion, students should be able to apply marketing principles in organizational decision making.

**MKT 123 Fundamentals of Selling (Spring, Summer) 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course is designed to emphasize the necessity of selling skills in a modern business environment. Emphasis is placed on sales techniques involved in various types of selling situations. Upon completion, students should be able to demonstrate an understanding of the techniques covered.

**MKT 223 Customer Service (Spring) 3 0 3**

Prerequisites: None

Corequisites: None

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. This course is also available through the Virtual Learning Community (VLC).

**MNT 110 Introduction to Maintenance Procedures (Spring) 1 3 2**

Prerequisites: None

Corequisites: None

This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards.

**MUS 110 Music Appreciation (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course is a basic survey of the music of the Western world. Emphasis is placed on the elements of music, terminology, composers, form, and style within a historical perspective. Upon completion, students should be able to demonstrate skills in basic listening and understanding of the art of music. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**MUS 112 Introduction to Jazz 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course introduces the origins and musical components of jazz and the contributions of its major artists. Emphasis is placed on the development of discriminating listening habits, as well as the investigation of the styles and structural forms of the jazz idiom. Upon completion, students should be able to demonstrate skills in listening and understanding this form of American music. This is a Universal General Education Transfer Component (UGETC) course.

**MUS 131 Chorus I (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course provides an opportunity to gain experience singing in a chorus. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**MUS 132 Chorus II (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course provides a continuation of studies begun in MUS 131. Emphasis is placed on vocal techniques and the study and performance of a variety of styles and periods of choral literature. Upon completion, students should be able to demonstrate skills needed to participate in choral singing leading to performance. This course has been approved for transfer under the (Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**NAS 101 Nurse Aide I** **3 4 3 6**

Prerequisites: DRE 097

Corequisites: PSY 150

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.

**NAS 102 Nurse Aide II** **3 2 6 6**

Prerequisites: NAS 101, PSY 150

Corequisites: NAS 107 or MED 121

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.

**NAS 107 Medication Aide** **0 2 0 1**

Prerequisites: NAS 101, PSY 150

Corequisites: NAS 102

This course will cover the six rights of medication administration for non-licensed personnel. Topics will include medication administration via oral, topical and installation routes, medical asepsis, hand hygiene, terminology, and legal implications. Upon completion, students should be able to demonstrate skills necessary to qualify as a Medication Aide with the North Carolina Medication Aide Registry.

**NET 110 Networking Concepts (Intermittently)** **2 2 3**

Prerequisites: None

Corequisites: None

This course introduces students to the networking field. Topics include network terminology and protocols, local-area networks, wide-area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students

should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.

**NET 125 Introduction to Networks (Fall) 1 4 3**

Prerequisites: None

Corequisites: None

This course introduces the networking field. Emphasis is placed on network terminology and protocols, local area networks, wide area networks, OSI model, cabling, router programming, Ethernet, IP addressing, and network standards. Upon completion, students should be able to perform tasks related to networking mathematics, terminology, and models, media, Ethernet, subnetting, and TCP/IP Protocols.

**NET 126 Routing Basics (Spring) 1 4 3**

Prerequisites: NET 125

Corequisites: None

This course focuses on initial router configuration, router software management, routing protocol configuration, TCP/IP, and access control lists (ACLs). Emphasis will be placed on the fundamentals of router configuration, managing router software, routing protocol, and access lists. Upon completion, students should have an understanding of routers and their role in WANs, router configuration, routing protocols, TCP/IP, troubleshooting, and ACLs.

**NET 225 Routing and Switching I (Fall) 1 4 3**

Prerequisites: NET 126

Corequisites: None

This course focuses on advanced IP addressing techniques, intermediate routing protocols, command-line interface configuration of switches, Ethernet switching, VLANs, STP, and VTP. Emphasis will be placed on application and demonstration of skills acquired in pre-requisite courses. Upon completion, students should be able to perform tasks related to VLSM, routing protocols, switching concepts and configuration, STP, VLANs, and VTP.

**NET 226 Routing and Switching II (Spring) 1 4 3**

Prerequisites: NET 225

Corequisites: None

This course introduces WAN theory and design, WAN technology, PPP, Frame Relay, ISDN, and additional case studies. Topics include network congestion problems, TCP/IP transport and network layer protocols, advanced routing and switching configuration, ISDN protocols, PPP encapsulation operations on a router. Upon completion, students should be able to provide solutions for network routing problems, identify ISDN protocols, and describe the Spanning Tree protocol.

**NET 289 Networking Project (Intermittently) 1 4 3**

Prerequisites: None

Corequisites: NET 226











**OST 136 Word Processing (Fall, Spring)****2 2 3**

Prerequisites: OST o80 or 25 words per minute

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.

**OST 141 Medical Terms I-Medical Office (Fall, Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course uses a language-structure approach to present the terminology and vocabulary that will be encountered in medical office settings. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in approximately one-half of the systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

**OST 142 Medical Terms II-Medical Office (Fall, Spring)****3 0 3**

Prerequisites: OST 141 or MED 121

Corequisites: None

This course is a continuation of OST 141 and continues the study, using a language-structure approach, of medical office terminology and vocabulary. Topics include word parts that relate to systemic components, conditions, pathology, and disorder remediation in the remaining systems of the human body. Upon completion, students should be able to relate words to systems, pluralize, define, pronounce, and construct sentences with the included terms.

**OST 148 Medical Coding Billing and Insurance (Fall, Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course introduces fundamentals of medical coding, billing and insurance. 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.

**OST 149 Medical Legal Issues (Fall, Spring)****3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the complex legal, moral, and ethical issues involved in providing health-care services. Emphasis is placed on the legal requirements of medical practices; the relationship of physician, patient, and office personnel; professional liabilities; and medical practice liability. Upon completion, students should be able to demonstrate a working knowledge of current medical law and accepted ethical behavior.

**OST 155 Legal Terminology (Intermittently)**

**3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers the terminology appropriate to the legal profession. Topics include legal research, court systems, litigation, civil and criminal law, probate, real and personal property, contracts and leases, domestic relations, equity, and corporations. Upon completion, students should be able to spell, pronounce, define, and accurately use legal terms.

**OST 156 Legal Office Procedures (Intermittently)**

**2 2 3**

Prerequisites: OST 134

Corequisites: None

This course covers legal office functions involved in the operation of a law office. Emphasis is placed on procedures in the law office involving the court system, legal research, litigation, probate, and real estate, personal injury, criminal, and civil law. Upon completion, students should be able to demonstrate a high level of competence in performing legal office duties.

**OST 159 Legal Office Ethics (Intermittently)**

**2 0 2**

Prerequisites: None

Corequisites: None

This course introduces the complex legal and ethical issues involved in the role of administrative support personnel in a variety of law-related offices. Topics include conduct compatible with the professional obligations of the employer, legally protected relationships, and the professional responsibilities of the employee. Upon completion, students should be able to conduct themselves in an ethical manner appropriate to a variety of law-related workplaces.

**OST 164 Text Editing Applications (Spring)**

**3 0 3**

Prerequisites: ENG 090 or DRE 098

Corequisites: None

This course provides a comprehensive study of editing skills needed in the workplace. Emphasis is placed on grammar, punctuation, sentence structure, proofreading, and editing. Upon completion, students should be able to use reference materials to compose and edit text.

**OST 184 Records Management (Spring)**

**2 2 3**

Prerequisites: None

Corequisites: DBA 110

This course includes the creation, maintenance, protection, security, and disposition of records stored in a variety of media forms. Topics include alphabetic, geographic, subject, and numeric filing methods. Upon completion, students should be able to set up and maintain a records management system.

**OST 233 Office Publications Design (Fall)****2 2 3**

Prerequisites: OST 136

Corequisites: None

This course provides entry-level skills in using software with desktop publishing capabilities. Topics include principles of page layout, desktop publishing terminology and applications, and legal and ethical considerations of software use. Upon completion, students should be able to design and produce professional business documents and publications.

**OST 241 Medical Office Transcription I (Fall)****1 2 2**

Prerequisites: MED 122 or OST 142 and OST 244

Corequisites: None

This course introduces machine transcription techniques as applied to medical documents. Emphasis is placed on accurate transcription, proofreading, and use of reference materials as well as vocabulary building. Upon completion, students should be able to prepare accurate and usable transcripts of voice recordings in the covered specialties.

**OST 243 Medical Office Simulation (Fall)****2 2 3**

Prerequisites: OST 148

Corequisites: None

This course introduces medical systems used to process information in the automated office. Topics include traditional and electronic information resources, storing and retrieving information, and the billing cycle. Upon completion, students should be able to use the computer accurately to schedule, bill, update, and make corrections.

**OST 244 Medical Document Production (Fall)****1 2 2**

Prerequisites: OST 134, OST 164

Corequisites: None

This course provides production-level skill development in processing medical documents. Emphasis is placed on producing mailable documents through the use of medical-related materials. Upon completion, students should be able to perform competently in preparing accurate, correctly formatted, and usable documents.

**OST 247 Procedure Coding (Fall, Spring)****1 2 2**

Prerequisites: MED 121 or OST 141

Corequisites: MED 122 or OST 142

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.

**OST 248 Diagnostic Coding (Fall, Spring)****1 2 2**

Prerequisites: MED 121 or OST 141

Corequisites: MED 122 or OST 142





**PBT 100 Phlebotomy Technology (Fall, Spring) 5 2 0 6**

Prerequisites: Admission to Phlebotomy Program

Corequisites: PSY 118

This course provides instruction in the skills needed for the proper collection of blood and other specimens used for diagnostic testing. Emphasis is placed on ethics, legalities, medical terminology, safety and universal precautions, health care delivery systems, patient relations, anatomy and physiology, and specimen collection. Upon completion, students should be able to demonstrate competence in the theoretical comprehension of phlebotomy techniques. This is a certificate-level course.

**PBT 101 Phlebotomy Practicum (Fall, Spring) 0 0 9 3**

Prerequisites: PBT 100, PSY 118

Corequisites: None

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. This is a certificate-level course.

**PCI 264 Process Control with PLCs (Spring) 3 3 4**

Prerequisites: ELC 228

Corequisites: None

This course introduces automatic process control implemented with PLC technology. Topics include interfacing and controlling advanced control loops and devices using various PLC-based systems. Upon completion, students should be able to demonstrate an understanding of advanced applications of process control and instrumentation systems with PLC-based devices.

**PED 110 Fit and Well for Life (Fall, Spring, Summer) 1 2 2**

Prerequisites: None

Corequisites: None

This course is designed to investigate and apply the basic concepts and principles of lifetime physical fitness and other health related factors. Emphasis is placed on wellness through the study of nutrition, weight control, stress management, and consumer facts on exercise and fitness. Upon completion, students should be able to plan a personal, lifelong fitness program based on individual needs, abilities, and interests. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 113 Aerobics I (Fall, Spring) 0 3 1**

Prerequisites: None

Corequisites: None

This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, and



students should be able to demonstrate advanced procedures of yoga. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 125 Self Defense (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course is designed to aid students in developing rudimentary skills in self-defense. Emphasis is placed on stances, blocks, punches, and kicks as well as non-physical means of self-defense. Upon completion, students should be able to demonstrate basic self-defense techniques of a physical and non-physical nature. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement. This course has been approved for transfer under the ICAA as a premajor and/or elective course requirement.

**PED 127 Karate (Intermittently) 0 3 1**

Prerequisites: None

Corequisites: None

This course introduces the martial arts using the Japanese Shotokan form. Topics include proper conditioning exercise, book control, proper terminology, historical foundations, and etiquette relating to karate. Upon completion, students should be able to perform line drill techniques and Kata for various ranks. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 128 Golf-Beginning (Fall, Spring) 0 2 1**

Prerequisites: None

Corequisites: None

This course emphasizes the fundamentals of golf. Topics include the proper grips, stance, alignment, swings for the short and long game, putting, and the rules and etiquette of golf. Upon completion, students should be able to perform the basic golf shots and demonstrate knowledge of the rules and etiquette of golf. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 130 Tennis-Beginning (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, students should be able to play recreational tennis. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 132 Racquetball-Beginning (Fall) 0 2 1**

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of racquetball. Emphasis is placed on rules, fundamentals, and strategies of beginning racquetball. Upon completion, students should be



diving skills; safety; and care and maintenance of equipment. Upon completion, students should be able to demonstrate skills, knowledge, and techniques of scuba diving in preparation for diver certification. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 162 Angling (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course introduces the sport of angling. Emphasis is placed on fishing with the use of artificial lures. Upon completion, students should be able to cast and retrieve using bait-caster and spinning reels and identify the various types of artificial lures. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.

**PED 171 Nature Hiking (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: BIO 146

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. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement.

**PED 172 Outdoor Living (Intermittently) 1 2 2**

Prerequisites: None

Corequisites: BIO 143

This course is designed to acquaint the beginning camper with outdoor skills. Topics include camping techniques such as cooking and preserving food, safety, and setting up camp. Upon completion, students should be able to set up camp sites in field experiences using proper procedures. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PED 181 Snow Skiing-Beginning (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of snow skiing. Topics include basic techniques, safety, and equipment involved in snow skiing. Upon completion, students should be able to ski a down slope, enter and exit a ski lift, and perform basic maneuvers on skis. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PED 215 Outdoor Cycling (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course is designed to promote physical fitness through outdoor cycling. Emphasis is placed on selection and maintenance of the bicycle, gear shifting, pedaling techniques, safety procedures, and conditioning exercises necessary for outdoor cycling. Upon completion, students should be able to demonstrate safe handling of a bicycle for recreational use. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PED 217 Pilates I (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course provides an introduction to the pilates method of body conditioning exercise. Topics include instruction in beginning and intermediate pilates exercises using a mat or equipment, history of pilates method, and relevant anatomy and physiology. Upon completion, students should be able to perform beginning and intermediate exercises, and possess an understanding of the benefits of conditioning. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PED 218 Pilates II (Intermittently) 0 2 1**

Prerequisites: PED 217

Corequisites: None

This course provides continued instruction to the pilates method of body conditioning exercise. Topics include instruction in intermediate and advanced pilates exercises using a mat or equipment, relevant anatomy and physiology, and further discussion of related concepts. Upon completion, students should be able to perform intermediate and advanced exercises, and possess the autonomy to maintain their own personal pilates practice. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PED 219 Disc Golf (Intermittently) 0 2 1**

Prerequisites: None

Corequisites: None

This course introduces the fundamentals of disc golf. Emphasis is placed on basic throwing techniques, putting, distance driving, scoring, and single and doubles play. Upon completion, students should be able to perform the skills required in playing situations. This course has been approved for transfer under the CAA as a premajor and/or elective course requirement. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PED 235 Tai Chi (Intermittently) 0 3 1**

Prerequisites: None

Corequisites: None

This course introduces martial arts using the Tai Chi form. Topics include proper conditioning exercises, proper terminology, historical foundations, etiquette and drills. Upon



**PHI 220 Western Philosophy I (Intermittently) 3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course covers Western intellectual and philosophic thought from the early Greeks through the medievalists. Emphasis is placed on such figures as the pre-Socratics, Plato, Aristotle, Epicurus, Epictetus, Augustine, Suarez, Anselm, and Aquinas. Upon completion, students should be able to trace the development of leading ideas regarding reality, knowledge, reason, and faith. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**PHI 230 Introduction to Logic (Intermittently) 3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course introduces basic concepts and techniques for distinguishing between good and bad reasoning. Emphasis is placed on deduction, induction, validity, soundness, syllogisms, truth functions, predicate logic, analogical inference, common fallacies, and scientific methods. Upon completion, students should be able to analyze arguments, distinguish between deductive and inductive arguments, test validity, and appraise inductive reasoning. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**PHI 240 Introduction to Ethics (Fall, Spring) 3 0 3**

Prerequisites: ENG 111

Corequisites: None

This course introduces theories about the nature and foundations of moral judgments and applications to contemporary moral issues. Emphasis is placed on utilitarianism, rule-based ethics, existentialism, relativism versus objectivism, and egoism. Upon completion, students should be able to apply various ethical theories to individual moral issues such as euthanasia, abortion, crime and punishment, and justice. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts. This is a Universal General Education Transfer Component (UGETC) course.

**PHS 121 Applied Physical Science I (Intermittently) 3 2 4**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the general principles of physics and chemistry. Topics include measurement, motion, Newton's laws of motion, momentum, energy, work, power, heat, thermodynamics, waves, sound, light, electricity, magnetism, and chemical principles. Upon completion, students should be able to demonstrate an understanding of the physical environment and be able to apply the scientific principles to observations experienced.



**PHS 122 Applied Physical Science II (Intermittently) 3 2 4**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the principles of nuclear energy, modern physics, geology, oceanography, meteorology, and astronomy. Topics include nuclear chemistry, relativity, composition of the earth, geologic processes and time, ocean currents and tides, eroding beaches, climate, weather, atmospheric influences, and the solar system. Upon completion, students should be able to demonstrate an understanding of the physical environment and be able to apply the scientific principles to observations experienced.

**PHS 130 Earth Science (Intermittently) 3 2 4**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course is a survey of the forces that impact the earth. Topics include geology, oceanography, and meteorology. Upon completion, students should be able to explain and identify the forces within, on, and around the earth as they influence the earth's dynamics. This course has been approved for transfer under the CAA and ICAA as a premajor and/or elective course requirement.

**PHY 110 Conceptual Physics (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: PHY 110A

This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**PHY 110A Conceptual Physics Lab (Intermittently) 0 2 1**

Prerequisites: RED 090 or DRE 097

Corequisites: PHY 110

This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110. This course has been approved for transfer under the CAA and ICAA as a general education course in Natural Science. This is a Universal General Education Transfer Component (UGETC) course.

**PHY 125 Health Sciences Physics (Intermittently) 3 2 4**

Prerequisites: MAT 121

Corequisites: None

This course introduces fundamental physical principles as they apply to health technologies. Topics include motion, force, work, power, simple machines, and other topics as





of government including the bureaucracy, civil rights and liberties, political participation and behavior, and policy formation. Upon completion, students should be able to demonstrate an understanding of the basic concepts and participatory processes of the American political system. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences. This is a Universal General Education Transfer Component (UGETC) course.

**POL 130 State and Local Government (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course includes state and local political institutions and practices in the context of American federalism. Emphasis is placed on procedural and policy differences as well as political issues in state, regional, and local governments of North Carolina. Upon completion, students should be able to identify and discuss various problems associated with intergovernmental politics and their effect on the community and the individual. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**POL 220 International Relations (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides a study of the effects of ideologies, trade, armaments, and alliances on relations among nation-states. Emphasis is placed on regional and global cooperation and conflict, economic development, trade, non-governmental organizations, and international institutions such as the World Court and UN. Upon completion, students should be able to identify and discuss major international relationships, institutions, and problems. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**PSY 110 Life Span Development (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an introduction to the study of human growth and development. Emphasis is placed on the physical, cognitive, and psychosocial aspects of development from conception to death. Upon completion, students should be able to demonstrate knowledge of development across the life span and apply this knowledge to their specific field of study.

**PSY 118 Interpersonal Psychology (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course introduces the basic principles of psychology as they relate to personal and professional development. Emphasis is placed on personality traits, communication/leadership styles, effective problem solving, and cultural diversity as they apply to personal







This course provides the opportunity to gain clinical experience and apply academic skills and knowledge to patient care. Emphasis is placed on performing patient care skills, observation and measurement, and professional and patient interaction. Upon completion, students should be able to demonstrate safe and effective clinical practice as measured by a standardized performance evaluation.

**PTA 212 Health Care/Resources (Spring) 2 0 0 2**

Prerequisites: PTA 245

Corequisites: PTA 215

This course provides an overview of various aspects of health care delivery systems and the interrelationships of health care team members. Topics include health agencies and their functions, health care team member roles, management, and other health care issues. Upon completion, students should be able to discuss the functions of health organizations and team members and aspects of health care affecting physical therapy delivery.

**PTA 215 Therapeutic Exercise (Spring) 2 3 0 3**

Prerequisites: PTA 245

Corequisites: PTA 212

This course introduces basic concepts of strengthening, endurance, and flexibility exercise and balance, gait, and posture training. Emphasis is placed on applying techniques to the treatment of orthopedic conditions. Upon completion, students should be able to safely and effectively execute basic exercise programs and balance, gait, and posture training.

**PTA 222 Professional Interactions (Summer) 2 0 0 2**

Prerequisites: PTA 125, BIO 169, COM 231 and HUM/FA

Corequisites: PTA 135 and PTA 225

This course is designed to assist in the development of effective interpersonal skills in the physical therapist assistant setting. Topics include reactions to disability, the grieving process, methods of communication, motivation, health promotion, disease prevention, and aging. Upon completion, students should be able to discuss and demonstrate methods for achieving effective interaction with patients, families, the public, and other health care providers.

**PTA 225 Introduction to Rehabilitation (Summer) 3 3 0 4**

Prerequisites: PTA 125, BIO 169, COM 231 and HUM/FA

Corequisites: PTA 135 and PTA 222

This course covers cardiovascular, pulmonary, and integumentary conditions, as well as causes and treatment of amputations. Emphasis is placed upon pathological processes as well as comprehensive treatment of the various conditions studied. Upon completion, students should be able to discuss etiology, signs, symptoms, complications, and prognoses of various conditions and implement components of a comprehensive treatment program.

**PTA 235 Neurological Rehabilitation (Fall) 3 6 0 5**

Prerequisites: PTA 135, PTA 225, and PTA 222





**REL 212 Introduction to New Testament (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course is a survey of the literature of first-century Christianity with readings from the gospels, Acts, and the Pauline and pastoral letters. Topics include the literary structure, audience, and religious perspective of the writings, as well as the historical and cultural context of the early Christian community. Upon completion, students should be able to use the tools of critical analysis to read and understand New Testament literature. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**SAB 110 Substance Abuse Overview 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course provides an overview of the core concepts in substance abuse and dependence. Topics include the history of drug use/abuse, effects on societal members, treatment of addiction, and preventive measures. Upon completion, students should be able to demonstrate knowledge of the etiology of drug abuse, addiction, prevention, and treatment.

**SEC 110 Security Concepts (Spring) 2 2 3**

Prerequisites: None

Corequisites: None

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.

**SEC 150 Secure Communications (Fall) 2 2 3**

Prerequisites: SEC 110

Corequisites: None

This course provides an overview of current technologies used to provide secure transport of information across networks. Topics include data integrity through encryption, Virtual Private Networks, SSL, SSH and IPsec. Upon completion, students should be able to implement secure data transmission technologies.

**SEC 160 Security Administration I (Intermittently) 2 2 3**

Prerequisites: SEC 110

Corequisites: None

This course provides an overview of security administration and fundamentals of designing security architectures. Topics include networking technologies, TCP/IP concepts, protocols, network traffic analysis, monitoring, and security best practices. Upon completion,

students should be able to identify normal network traffic using network analysis tools and design basic security defenses.

**SEC 180 Info Assurance Principles (Spring) 2 3 3**

Prerequisites: SEC 110

Corequisites: None

This course introduces students to the concepts of layered and comprehensive Information Assurance best practices. Topics include user defensive measures, edge defensive measures, along with confidentiality, integrity and availability of enterprise data with the business continuity concepts of: redundancy, disaster recovery, incident handling, compliance and auditing. Upon completion, students should be able to plan effective information assurance strategies.

**SEC 210 Intrusion Detection (Spring) 2 2 3**

Prerequisites: SEC 110

Corequisites: None

This course introduces the student to intrusion detection methods in use today. Topics include the types of intrusion detection products, traffic analysis, and planning and placement of intrusion detection solutions. Upon completion, students should be able to plan and implement intrusion detection solution for networks and host-based systems.

**SEC 220 Defense-in-Depth (Intermittently) 2 2 3**

Prerequisites: SEC 110

Corequisites: None

This course introduces students to the concepts of defense-in-depth, a security industry best practice. Topics include firewalls, backup systems, redundant systems, disaster recovery, and incident handling. Upon completion, students should be able to plan effective information security defenses, backup systems, and disaster recovery procedures.

**SEC 289 Security Capstone Project (Intermittently) 1 4 3**

Prerequisites: None

Corequisites: SEC 220

This course provides the student the opportunity to put into practice all the skills learned to this point. Emphasis is placed on security policy, process planning, procedure definition, business continuity, and systems security architecture. Upon completion, students should be able to design and implement comprehensive information security architecture from the planning and design phase through implementation.

**SGD 111 Intro. to Simulation and Game Development (Fall) 2 3 3**

Prerequisites: None

Corequisites: None

This course provides students with an introduction to simulation and game development. Topics include setting, storytelling, narrative, character design, interface design, game play, internal economy, core mechanics, game genres, AI, the psychology of game design and



**SGD 212     SGD Design II (Spring)****2   3   3**

Prerequisites: SGD 112

Corequisites: None

This course covers the advanced principles of simulation and game design. Topics include advanced design concepts in simulation and game development. Upon completion, students should be able to design an advanced simulation or game.

**SGD 289     SGD Project (Spring)****2   3   3**

Prerequisites: SGD 212

Corequisites: None

This course provides students with the opportunity to create a functional simulation or game with minimal instructor support. Emphasis is placed upon verbal and written communication, skill documentation, professional presentation and user training. Upon completion, students should be able to create and professionally present a fully functional simulation or game.

**SOC 210     Introduction to Sociology (Fall, Spring)****3   0   3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course introduces the scientific study of human society, culture, and social interactions. Topics include socialization, research methods, diversity and inequality, cooperation and conflict, social change, social institutions, and organizations. Upon completion, students should be able to demonstrate knowledge of sociological concepts as they apply to the interplay among individuals, groups, and societies. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences. This is a Universal General Education Transfer Component (UGETC) course.

**SOC 213     Sociology of the Family (Fall, Spring)****3   0   3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course covers the institution of the family and other intimate relationships. Emphasis is placed on mate selection, gender roles, sexuality, communication, power and conflict, parenthood, diverse lifestyles, divorce and remarriage, and economic issues. Upon completion, students should be able to analyze the family as a social institution and the social forces which influence its development and change. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**SOC 220     Social Problems (Intermittently)****3   0   3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an in-depth study of current social problems. Emphasis is placed on causes, consequences, and possible solutions to problems associated with families, schools,

workplaces, communities, and the environment. Upon completion, students should be able to recognize, define, analyze, and propose solutions to these problems. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**SOC 240 Social Psychology (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course examines the influence of culture and social groups on individual behavior and personality. Emphasis is placed on the process of socialization, communication, conformity, deviance, interpersonal attraction, intimacy, race and ethnicity, small group experiences, and social movements. Upon completion, students should be able to identify and analyze cultural and social forces that influence the individual in a society. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Social/Behavioral Sciences.

**SOC 242 Sociology of Deviance (Intermittently) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

This course provides an overview of deviant behavior and the processes involved in its definition, causation, prevention, control, and treatment. Topics include theories of causation, social control, delinquency, victimization, criminality, the criminal justice system, punishment, rehabilitation, and restitution. Upon completion, students should be able to identify and analyze issues surrounding the nature and development of social responses to deviance. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**SPA 111 Elementary Spanish I (Fall, Spring) 3 0 3**

Prerequisites: RED 090 or DRE 097

Corequisites: None

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. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**SPA 112 Elementary Spanish II (Fall, Spring) 3 0 3**

Prerequisites: SPA 111

Corequisites: None

This course is a continuation of SPA 111 focusing on the fundamental elements of the Spanish language within a cultural context. Emphasis is placed on the progressive development of listening, speaking, reading, and writing skills. Upon completion, students should be able to comprehend and respond with increasing proficiency to spoken and written

Spanish and demonstrate further cultural awareness. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**SPA 120 Spanish for the Workplace (Fall, Spring) 3 0 3**

Prerequisites: None

Corequisites: None

This course offers applied Spanish for the workplace to facilitate basic communication with people whose native language is Spanish. Emphasis is placed on oral communication and career-specific vocabulary that targets health, business, and/or public service professions. Upon completion, students should be able to communicate at a functional level with native speakers and demonstrate cultural sensitivity. The course will incorporate development of cultural awareness through the cultural context of the Spanish language.

**SPA 161 Cultural Immersion (Intermittently) 2 3 3**

Prerequisites: SPA 111

Corequisites: None

This course explores Hispanic culture through intensive study on campus and field experience in a host country or area. Topics include an overview of linguistic, historical, geographical, sociopolitical, economic, and/or artistic concerns of the area visited. Upon completion, students should be able to exhibit first-hand knowledge of issues pertinent to the host area and demonstrate understanding of cultural differences. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a premajor and/or elective course requirement.

**SPA 211 Intermediate Spanish I (Intermittently) 3 0 3**

Prerequisites: SPA 112

Corequisites: None

This course provides a review and expansion of the essential skills of the Spanish language. Emphasis is placed on the study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate effectively, accurately, and creatively about the past, present, and future. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**SPA 212 Intermediate Spanish II (Intermittently) 3 0 3**

Prerequisites: SPA 211

Corequisites: None

This course provides a continuation of SPA 211. Emphasis is placed on the continuing study of authentic and representative literary and cultural texts. Upon completion, students should be able to communicate spontaneously and accurately with increasing complexity and sophistication. This course has been approved for transfer under the Comprehensive Articulation Agreement (CAA) and ICAA as a general education course in Humanities/Fine Arts.

**SST 140 Green Bldg & Design Concepts (Fall) 3 0 3**

Prerequisites: None Corequisites: None

This course is designed to introduce the student to sustainable building design and construction principles and practices. Topics include sustainable building rating systems and certifications, energy efficiency, indoor environmental quality, sustainable building materials and water use. Upon completion, students should be able to identify the principles and practices of sustainable building design and construction.

**SWK 110 Intro to Social Work 3 0 3**

Prerequisites: None

Corequisites: None

This course examines the historical development, values, orientation, and professional standards of social work and focuses on the terminology and broader systems of social welfare. Emphasis is placed on the various fields of practice including those agencies whose primary function is financial assistance, corrections, mental health, and protective services. Upon completion, students should be able to demonstrate an understanding of the knowledge, values, and skills of the social work professional.

**SWK 113 Working With Diversity 3 0 3**

Prerequisites: DRE 097

Corequisites: None

This course examines and promotes understanding, sensitivity, awareness, and knowledge of human diversity. Emphasis is placed on professional responsibilities, duties, and skills critical to multicultural human services practice. Upon completion, students should be able to integrate and expand knowledge, skills, and cultural awareness relevant to diverse populations.

**TRN 110 Intro to Transport Tech (Fall) 1 2 2**

Prerequisites: None

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.

**TRN 120 Basic Transport Electricity (Fall) 4 3 5**

Prerequisites: None

Corequisites: None

This course covers basic electrical theory, wiring diagrams, test equipment, and, diagnosis, repair and replacement of batteries, starters, and alternators. Topics include Ohm's Law,



circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and electrical concerns.

**TRN 120A Basic Transport Electricity Lab (Fall) 0 3 1**

Prerequisites: None

Corequisites: TRN 120

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.

**TRN 130 Intro to Sustainable Transport (Fall) 2 2 3**

Prerequisites: None

Corequisites: None

This course provides an overview of alternative fuels and alternative fuel vehicles. Topics include composition and use of alternative fuels including compressed natural gas, biodiesel, ethanol, hydrogen, and synthetic fuels, hybrid/electric, and vehicles using alternative fuels. Upon completion, students should be able to identify alternative fuel vehicles, explain how each alternative fuel delivery system operates, and perform minor repairs.

**TRN 140 Transport Climate Control (Spring) 1 2 2**

Prerequisites: None

Corequisites: TRN 140A

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.

**TRN 140A Transport Climate Cont Lab (Spring) 1 2 2**

Prerequisites: None

Corequisites: TRN 140

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.

**TRN 145 Advanced Transport Electronics (Fall) 2 3 3**

Prerequisites: TRN 120

Corequisites: None



**WBL 114      Work-Based Learning I (Fall, Spring)      0   0   40   4**

Prerequisites: For Electric Line Construction, completion of 9 semester credit hours and one major core course.

Corequisites: None

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. The Vice President of Corporate and Economic Development will assign appropriate personnel to monitor student progress and attendance.

**WBL 115      Work-Based Learning Seminar I      1   0   0   1**

Prerequisites: None

Corequisites: WBL 111

This course is designed to be taken during the same semester as WBL 111 to allow students to reflect on what they are learning during their co-op work experience and to make connections between academic concepts and their application in the field. Emphasis is placed on integrating classroom learning with related work experience. Appropriate departmental faculty will monitor student progress and attendance.

**WBL 121      Work-Based Learning II (Fall, Spring, Summer) 0   0   10   1**

Prerequisites: For Hospitality Management – Instructor Permission Required

Corequisites: None

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.

**WBL 124      Work-Based Learning II (Fall, Spring)      0   0   40   4**

Prerequisites: For Electric Lineman Technology (ELT ), WBL 114

Corequisites: None

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. The Vice President of Corporate and Economic Development will assign appropriate personnel to monitor student progress and attendance.

**WBL 131      Work-Based Learning III (Fall, Spring, Summer) 0   0   10   1**

Prerequisites: For Culinary Arts – CUL 240

Corequisites: None

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.

**WBL 134      Work Based Learning III (Fall, Spring)                      0   0   40   4**

Prerequisites: For Electric Lineman Technology (ELT ), WBL 124

Corequisites: None

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. The Vice President of Corporate and Economic Development will assign appropriate personnel to monitor student progress and attendance.

**WBL 211      Work-Based Learning IV (Fall, Spring, Summer)                      0   0   10   1**

Prerequisites: For Culinary Arts – CUL 240

Corequisites: None

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.

**WEB 110      Internet/Web Fundamentals (Intermittently)                      2   2   3**

Prerequisites: None

Corequisites: None

This course introduces Work Wide Web Consortium (W3C) standard markup language and services of the Internet. Topics include creating web pages, search engines, FTP, and other related topics. Upon completion, students should be able to deploy a hand-coded website created with mark-up language, and effectively use and understand the function of search engines.

**WEB 111      Introduction to Web Graphics (Fall)                      2   2   3**

Prerequisites: None

Corequisites: None

This course introduces the creation of web graphics and addressing problems peculiar to WWW display using appropriate software. Topics include web graphics file types, optimization, RGB color, web typography, elementary special effects, transparency, animation, slicing, basic photo manipulation, and other related topics. Upon completion, students should be able to create graphics such as animated banners, buttons, backgrounds, logos, and manipulate photographic images for Web delivery.

**WEB 115      Web Markup and Scripting (Fall)                      2   2   3**

Prerequisites: WEB 210



into web applications, as well as in software architecture principles. Upon completion, students should be able to design and develop database driven web applications according to industry standards.

**WLD 110 Cutting Processes (Fall) 1 3 2**

Prerequisites: None

Corequisites: None

This course introduces oxy-fuel and plasma-arc cutting systems. Topics include safety, proper equipment setup, and operation of oxy-fuel and plasma-arc cutting equipment with emphasis on straight line, curve and bevel cutting. Upon completion, students should be able to oxy-fuel and plasma-arc cut metals of varying thickness.

**WLD 112 Basic Welding Processes (Spring) 1 3 2**

Prerequisites: None

Corequisites: None

This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes.

**WLD 115 SMAW (Stick) Plate (Fall) 2 9 5**

Prerequisites: None

Corequisites: None

This course introduces the shielded metal arc (stick) welding process. Emphasis is placed on padding, fillet, and groove welds in various positions with SMAW electrodes. Upon completion, students should be able to perform SMAW fillet and groove welds on carbon plate with prescribed electrodes.

**WLD 115AB SMAW (Stick) Plate-AC (Fall) 2 4 3**

Prerequisites: None

Corequisites: None

This first of two parts of WLD 115.

**WLD 115BB SMAW (Stick) Plate-BC (Spring) 0 5 2**

Prerequisites: WLD 115AC

Corequisites: None

A continuation of WLD 115AB and second part of WLD 115.

**WLD 116 SMAW (Stick) Plate/Pipe (Spring) 1 9 4**

Prerequisites: WLD 115

Corequisites: None

This course is designed to enhance skills with the shielded metal art (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.

**WLD 116AB SMAW (Stick) Plate/Pipe-AC (Spring) 1 4 2**

Prerequisites: WLD 115

Corequisites: None

The first of two parts of WLD 116.

**WLD 116BB SMAW (Stick) Plate/Pipe-BC (Fall) 0 5 2**

Prerequisites: WLD 116AB

Corequisites: None

A continuation of WLD 116AB and second part of WLD 116.

**WLD 121 GMAW (MIG) FCAW/Plate (Fall) 2 6 4**

Prerequisites: None

Corequisites: None

This course introduces metal arc welding and flux core arc welding processes. Topics include equipment setup and fillet and groove welds with emphasis on application of GMAW and FCAW electrodes on carbon steel plate. Upon completion, students should be able to perform fillet welds on carbon steel with prescribed electrodes in the flat, horizontal, and overhead positions.

**WLD 121AB GMAW (MIG) FCAW/Plate-AB (Fall) 1 3 2**

Prerequisites: None

Corequisites: None

The first of two parts of WLD 121.

**WLD 121BB GMAW (MIG) FCAW/Plate-BB (Spring) 1 3 2**

Prerequisites: WLD 121AB

Corequisites: None

A continuation of WLD 121AB and final part of WLD 121.

**WLD 122 GMAW (MIG) Plate/Pipe (Spring) 1 6 3**

Prerequisites: WLD 121

Corequisites: None

This course is designed to enhance skills with the gas metal arc (MIG) welding process. Emphasis is placed on advancing skills with the GMAW process making groove welds on carbon steel plate and pipe in various positions. Upon completion, students should be able to perform groove welds with prescribed electrodes on various joint geometry.

**WLD 122AB GMAW (MIG) Plate/Pipe-AB (Spring) 1 3 2**

Prerequisites: WLD 121

Corequisites: None

The first of two parts of WLD 122.

<b>WLD 122BB</b>	<b>GMAW (MIG) Plate/Pipe-BB (Fall)</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: WLD 122AB				
Corequisites: None				
A continuation of WLD 122AB and final part of WLD 122.				
<b>WLD 131</b>	<b>GTAW (TIG) Plate (Spring)</b>	<b>2</b>	<b>6</b>	<b>4</b>
Prerequisites: None				
Corequisites: None				
This course introduces the gas tungsten arc (TIG) welding process. Topics include correct selection of tungsten, polarity, gas, and proper filler rod with emphasis placed on safety, equipment setup, and welding techniques. Upon completion, students should be able to perform GTAW fillet and groove welds with various electrodes and filler materials.				
<b>WLD 131AB</b>	<b>GTAW (TIG) Plate-AB (Spring)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				
The first of two parts of WLD 131.				
<b>WLD 131BB</b>	<b>GTAW (MIG) Plate-BB (Fall)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: WLD 131AB				
Corequisites: None				
A continuation of WLD 131AB and final part of WLD 131.				
<b>WLD 132</b>	<b>GTAW (TIG) Plate/Pipe (Summer)</b>	<b>1</b>	<b>6</b>	<b>3</b>
Prerequisites: WLD 131				
Corequisites: None				
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.				
<b>WLD 132AB</b>	<b>GTAW (TIG) Plate/Pipe-AB (Summer)</b>	<b>1</b>	<b>3</b>	<b>2</b>
Prerequisites: None				
Corequisites: None				
The first of two parts of WLD 132.				
<b>WLD 132BB</b>	<b>GTAW (TIG) Plate/Pipe-BB (Fall)</b>	<b>0</b>	<b>3</b>	<b>1</b>
Prerequisites: WLD 132AB				
Corequisites: None				
A continuation of WLD 132AB and final part of WLD 132.				
<b>WLD 141</b>	<b>Symbols and Specifications (Fall)</b>	<b>2</b>	<b>2</b>	<b>3</b>
Prerequisites: None				





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.

**WLD 262                      Inspection and Testing (Spring)                      2    2    3**

Prerequisites: None

Corequisites: None

This course introduces destructive and non-destructive testing methods. Emphasis is placed on safety, types and methods of testing, and the use of testing equipment and materials. Upon completion, students should be able to understand and/or perform a variety of destructive and non-destructive testing processes.

**WLD 265                      Automated Welding/Cutting (Fall)                      2    6    4**

Prerequisites: DFT-151, WLD-110, and WLD-121

Corequisites: None

This course introduces automated welding equipment and processes. Topics include setup, programming, and operation of automated welding and cutting equipment. Upon completion, students should be able to set up, program, and operate automated welding and cutting equipment. Has been approved for transfer under the CAA and ICAA as a premajor and/or elective requirement.