## Course Descriptions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Lab</th>
<th>Theory</th>
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<tbody>
<tr>
<td>ABR 111</td>
<td>Non-structural Repair</td>
<td>3</td>
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<td>Students are introduced to basic principles of non-structural panel repairs. Topics include shop safety, identification and use of hand/power tools, sheet-metal repairs, and materials. Upon completion, the student should be able to perform basic sheet-metal repairs.</td>
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<tr>
<td>ABR 114</td>
<td>Non-structural Panel Replacement</td>
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<td>3 Hrs. Students are introduced to the principles of non-structural panel replacement. Topics include replacement and alignment of bolt-on panels, full and partial panel replacement procedures, and attachment methods.</td>
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<td>ABR 122</td>
<td>Surface Preparation</td>
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<td>This course introduces students to methods of surface preparation for vehicular refinishing. Topics include sanding techniques, metal treatment, selection of undercoats, and proper masking procedures.</td>
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<td>ABR 123</td>
<td>Paint Application and Equipment</td>
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<td>This course introduces students to methods of paint application and equipment used for vehicular refinishing. Topics include spray gun and related equipment use, paint mixing, matching, and applying the final topcoat.</td>
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<td>ABR 151</td>
<td>Safety and Environmental Practices</td>
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<td>This course is designed to instruct the student in safe work practices. Topics include OSHA requirements, EPA regulations, as well as state and local laws. Upon completion, the student should be knowledgeable in shop safety and environmental regulations. This is a CORE course.</td>
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<td>ABR 154</td>
<td>Auto Glass and Trim</td>
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<td>This course is a study of automotive glass and trim. Emphasis is placed on removal and replacement of structural glass, non-structural glass and auto trim. Upon completion, the student should be able to remove and replace automotive trim and glass.</td>
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<tr>
<td>ABR 156</td>
<td>Automotive Cutting and Welding</td>
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<td>Students are introduced to the various automotive cutting and welding processes. Emphasis is placed on safety, plasma arc and oxy-acetylene cutting, resistance type spot welding, and Metal Inert Gas (MIG) welding. Upon completion, the student should be able to safely perform automotive cutting and welding procedures.</td>
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<td>ABR 157</td>
<td>Automotive Plastic Repairs</td>
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<td>This course provides instruction in automotive plastic repairs. Topics include plastic welding (airless, hot, and chemical), use of flexible repair fillers, identification of types of plastics, and determination of the correct repair procedures for each. Upon completion, students should be able to correctly identify and repair the different types of automotive plastics.</td>
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<td>ABR 182</td>
<td>Special Topics in Auto Body</td>
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<td>This course is guided independent study in special projects to give the student additional training in a specific area selected by the instructor. Emphasis is placed on individual student needs to improve or expand skills. Upon course completion, students should be able to demonstrate skills to meet specific needs.</td>
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<td>ABR 213</td>
<td>Automotive Structural Analysis</td>
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<td>Students learn methods of determining structural misalignment. Topics include methods of inspection, types of measuring equipment, data sheets, and identification of types of structural damage.</td>
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<td>ABR 214</td>
<td>Automotive Structural Repair</td>
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<td>This course provides instruction in the correction of structural damage. Topics include types and uses of alignment equipment, anchoring and pulling methods, and repair/replacement of structural components.</td>
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<td>ABR 223</td>
<td>Automotive Mechanical Components</td>
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<td>This course provides instruction in collision-related mechanical repairs. Emphasis is placed on diagnosis and repairs to drive train, steering/suspension components, and other mechanical repairs.</td>
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<tr>
<td>ABR 255</td>
<td>Steering and Suspension</td>
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<td>This course introduces the student to the various types of suspension and steering systems used in the automotive industry. Emphasis is placed on system components, suspension angles and effect of body/frame alignment on these components and</td>
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angles. Upon completion, the student should be able to repair and/or replace damaged components and prepare the vehicle for alignment.

**ABR 265 - Paint Defects and Final Repair**  
3 Hours: 1T, 4L  
This course introduces the student to methods of identifying paint defects, causes, cures, and final detailing. The student will learn to troubleshoot and correct paint imperfections.

**ABR 281 - Special Topics in Auto Body**  
3 Hours: 6L  
This course is guided independent study in special projects to give the student additional training in a specific area selected by the instructor. Emphasis is placed on individual student needs to improve or expand skills. Upon completion, the student should be able to demonstrate skills to meet specific needs.

**ABR 293 - Auto Body Repair CO-OP**  
Prerequisite: Instructor approval  
3 Hours: 6L  
This course is designed to provide practical shop experience for advanced students through part-time employment in the collision repair industry. Emphasis is placed on techniques used in collision repair facilities. Upon completion, the student should have gained skills necessary for entry level employment.

**ACR - Air Conditioning**

**ACR 111 - Principles of Refrigeration**  
3 Hours: 1T, 4L  
This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer; HVACR system components; common and specialty tools for HVACR; and application of the concepts of basic compression refrigeration. Upon completion, the student should identify system components and understand their functions, identify and use common and specialty HVACR tools, and maintain components of a basic compression refrigeration system. This is a **CORE** course.

**ACR 112 - HVACR Service Procedures**  
3 Hours: 1T, 4L  
This course covers system performance checks and refrigerant cycle diagnosis. Emphasis is placed on the use of refrigerant recovery/recycle units, industry codes, refrigerant coils, and correct methods of charging and recovering refrigerants. Upon completion, the student should be able to properly recover/recycle refrigerants and demonstrate safe, correct service procedures which comply with the no-venting laws.

**ACR 113 - Refrigeration Piping Practices**  
3 Hours: 1T, 4L  
This course introduces students to the proper installation procedures of refrigerant piping and tubing for the heating, ventilation, air conditioning, and refrigeration industry. This course includes various methods of working with and joining tubing. Upon completion, the student should understand related terminology and be able to identify ACR pipe, tubing, and various fittings. This is a **CORE** course.

**ACR 120 - Fundamentals of Electric Heating Systems**  
3 Hours: 1T, 4L  
This course covers the fundamentals of electric heating systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, the student should be able to install and service electric heating systems and heat pumps.

**ACR 121 - Principles of Electricity for HVACR**  
3 Hours: 1T, 4L  
This course is designed to provide the student with the basic knowledge of electrical theory and circuitry as it pertains to air conditioning and refrigeration. This course emphasizes safety, definitions, symbols, laws, circuits, and electrical test instruments. Upon completion, the student should understand and be able to apply the basic principles of HVACR circuits and circuit components. This is a **CORE** course.

**ACR 122 - HVACR Electric Circuits**  
3 Hours: 1T, 4L  
This course provides the student with advanced applications of electrical circuits and diagrams. The student constructs a variety of wiring diagrams commonly found in HVACR electrical systems. Upon completion, the student should understand standard wiring diagrams and symbols and be able to construct various types of electrical circuits. This is a **CORE** course.

**ACR 123 - HVACR Electrical Components**  
3 Hours: 1T, 4L  
During this course students learn characteristics and operations of various electrical components and controls. Emphasis is placed on the operation of motors, relays, contactors, starters, and other HVACR electrical components. Upon completion, the student should be able to install various electrical components and determine their proper operation. This is a **CORE** course.

**ACR 125 - Fundamentals of Gas and Electrical Heating Systems**  
6 Hours: 2T, 8L  
This course provides instruction in general service and installation for common gas and electrical heating systems. Emphasis is placed on components, general service procedures, and basic installation. Upon completion, the student should be able to install and service gas and electrical heating systems in a wide range of applications.
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<th>Course Code</th>
<th>Course Title</th>
<th>Hours:</th>
<th>Lecture/Lab</th>
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<tbody>
<tr>
<td>ACR 127</td>
<td>HVACR Electric Motors and Components</td>
<td>3</td>
<td>1T, 4L</td>
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<td></td>
<td>This course covers the basic auxiliary services of</td>
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<td>electric motors used in HVACR systems. Course</td>
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<td>topics include types, operation, installation,</td>
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<td>and troubleshooting of motors and related</td>
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<td>components. Upon completion, the student should</td>
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<td>be able to install and service various types of</td>
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<td>HVACR electric motors and related components.</td>
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<td>ACR 128</td>
<td>Heat Load Calculations</td>
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<td>3T</td>
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<td>This course focuses on heat flow into and out of</td>
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<td>buildings. Emphasis is placed on determining</td>
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<td>heat gain/heat loss of a given structure. Upon</td>
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<td>completion, students should be able to calculate</td>
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<td>heat load and determine HVAC equipment size</td>
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<td>requirements.</td>
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<td>ACR 132</td>
<td>Residential Air Conditioning</td>
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<td>1T, 4L</td>
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<td>This course introduces students to residential</td>
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<td>air conditioning systems. Emphasis is placed on</td>
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<td>the operation, service, and repair of</td>
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<td>residential air conditioning systems. Upon</td>
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<td>completion, the student should be able to</td>
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<td>service and repair residential air conditioning</td>
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<td>systems.</td>
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<td>ACR 134</td>
<td>Ice Machines</td>
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<td>1T, 4L</td>
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<td>This course introduces students to ice machine</td>
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<td>types and their operation, emphasizing function,</td>
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<td>installation, auxiliary services, and</td>
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<td>troubleshooting. Upon completion, the student</td>
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<td>should be able to perform installation and</td>
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<td>auxiliary services procedures.</td>
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<td>ACR 135</td>
<td>Mechanical/Gas/Safety Codes</td>
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<td>This course is to enhance the student’s knowledge</td>
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<td>of the International Fuel Gas Code and</td>
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<td>International Mechanical Code as well as fire</td>
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<td></td>
<td>and job safety requirements. Emphasis is placed</td>
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<td>on code book content and compliance with</td>
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<td>installation requirements. Upon completion,</td>
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<td>students should be able to apply code</td>
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<td>requirements to all work.</td>
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<td>ACR 138</td>
<td>Customer Relations</td>
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<td>This course covers the basic aspects of customer</td>
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<td>relations needed to be an HVAC technician.</td>
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<td>Topics include employability skills associated</td>
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<td>with job performance, record keeping, service</td>
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<td>invoices, certification requirements, local</td>
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<td>ordinances, and business ethics.</td>
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<td>ACR 144</td>
<td>Basic Drawing and Blueprint Reading in HVAC</td>
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<td>This course covers basic drawing and blueprint</td>
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<td>reading as applied to the HVAC industry.</td>
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<td>Emphasis is on three-view drawings, basic duct</td>
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<td>systems, and isometric piping. Upon course</td>
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<td>completion, students should be able to perform</td>
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<td>basic drawings related to HVAC systems and read</td>
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<td>pertinent blueprints.</td>
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<td>ACR 147</td>
<td>Refrigeration Transition and Recovery</td>
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<td>This course is EPA-approved and covers material</td>
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<td>relating to the requirements necessary for Type</td>
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<td>I, II, III, and universal certification. Upon</td>
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<td>completion, the student should be prepared to</td>
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<td>take the EPA 608 certification exam.</td>
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<td>ACR 148</td>
<td>Heat Pump Systems I</td>
<td>3</td>
<td>1T, 4L</td>
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<td>This course provides basic instruction on the</td>
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<td>operation and servicing of heat pump systems.</td>
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<td>Additional emphasis is placed on basic theory</td>
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<td></td>
<td>and application of refrigerants for heat pump</td>
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<td>systems and on basic service of components.</td>
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<td>Upon completion, the student should be able to</td>
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<td></td>
<td>install and service heat pumps.</td>
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<td>ACR 149</td>
<td>Heat Pump Systems II</td>
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<td>1T, 4L</td>
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<td>This is a continuation course of the basic</td>
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<td>theory and application of heat pump systems.</td>
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<td>Emphasis is placed on electrical components of</td>
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<td>heat pumps and their function. Students should</td>
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<td>possess a strong foundation of electrical</td>
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<td>principles and theory. Upon completion, the</td>
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<td>student should be able to install and service</td>
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<td></td>
<td>heat pumps.</td>
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<td>ACR 181</td>
<td>Special Topics in Air Conditioning and</td>
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<td></td>
<td>Refrigeration</td>
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<td>This course provides specialized instruction in</td>
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<td></td>
<td>various areas related to the air conditioning</td>
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<td></td>
<td>and refrigeration industry. Emphasis is placed</td>
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<td>on meeting the student’s needs.</td>
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<td>ACR 192</td>
<td>HVAC Apprenticeship/Internship</td>
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<td>This course is designed to provide basic</td>
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<td>hands-on experiences in the work place. The</td>
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<td>student is provided with a training plan</td>
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<td>developed by the employer and instructor</td>
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<td>working together to guide the learning</td>
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<td>experience. Upon completion, the student</td>
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<td>should be able to work independently and apply</td>
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<td>related skills and knowledge. This course</td>
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<td>requires a minimum of fifteen work hours per</td>
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<td>ACR 200</td>
<td>Review for Contractor Exam</td>
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<td>This course prepares students to take the State</td>
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<td>Certification Examination. Emphasis is placed on</td>
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<td>all pertinent codes, piping procedures, duct</td>
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<td>design, load calculation, psychometrics,</td>
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<td>installation procedures, and air distribution.</td>
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<td>Upon completion, students should be prepared</td>
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<td>to take the contractor exam.</td>
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ACR 205 - System Sizing and Air Distribution  
3 Hours: 1T, 4L  
This course provides instruction in the load calculation of a structure and system sizing. Topics of instruction include heat loss, heat gain, equipment and air distribution sizing, and factors making acceptable indoor air quality. Upon completion, the student should be able to calculate system requirements.

ACR 210 - Troubleshooting HVACR Systems  
3 Hours: 1T, 4L  
This course provides instruction in the use of various meters and gauges used in the HVACR industry. Emphasis is placed on general service procedures, system diagnosis, corrective measures, methods of leak detection, system evacuation, charging, and performance checks. Upon completion, the student should be able to perform basic troubleshooting of mechanical and electrical components of HVACR systems.

AFS - Air Force Studies

AFS 101 – Leadership Laboratory  
1 Hour  
This course is a survey course of topics relating to the Air Force and national defense. It includes a discussion of purpose, structure, and career opportunities in the United States Air Force and is an introduction to effective written communication. The AFS 101 Leadership Laboratory is a co-curricular activity including a study of Air Force customs and courtesies, drill and ceremonies, and military commands.

AFS 110 – Foundations of the USAF  
1 Hour  
This course is an introduction to interpersonal communications. Seminars focus on effective listening techniques and verbal and nonverbal communications. Practical exercises and group projects are designed to demonstrate barriers to effective communications, techniques to overcome barriers, development and presentation of oral communications, strategy, technique, and delivery of effective oral presentations. Student practicum is required. The AFS 102 Leadership Laboratory is a co-curricular activity that includes a study of Air Force customs and courtesies, drill and ceremonies, and military commands.

AFS 201 – Leadership Laboratory  
Prerequisite: AFS 101  
1 Hour  
This course is a historical survey of technological innovation in warfare. Focus is on the emergence of air power and its significance in war and national security policy implementation. The AFS 201 Leadership Laboratory is a co-curricular activity including a study of Air Force customs and courtesies, drill and ceremonies, and military commands.

AFS 202 - The Air Force Way II  
1 Hour  
This course is an analysis of leadership and follower-ship traits in the context of a modern military force. The course includes discussions of ethical standards of military officers, Air Force core values, and an introduction to total quality management as advanced practical application of oral communication skills, including organization, research, delivery, and audience analysis for briefing and presentations. Group leadership problems are designed to enhance interpersonal communications. The AFS 202 Leadership Laboratory is a co-curricular activity including a study of Air Force customs and courtesies, drill and ceremonies, and military commands.

ANT - Anthropology

ANT 200 - Introduction to Anthropology  
3 Hours  
Prerequisite: RDG 085 or higher placement  
This course is a survey of the physical, social, and cultural development and behavior of human beings.

ANT 210 - Physical Anthropology  
3 Hours  
Prerequisite: RDG 085 or higher placement  
This course is a study of the human evolution based upon fossil and archaeological records, as well as analysis of the variation and distribution of contemporary human populations.

ANT 220 - Cultural Anthropology  
3 Hours  
Prerequisite: ANT 200.  
This course is the application of the concept of culture to the study of both primitive and modern society.

ANT 230 - Introduction to Archaeology  
3 Hours  
Prerequisite: RDG 085 or higher placement  
This course is an introduction to archaeological excavation techniques and post-exavcation laboratory procedures.
ART - Art

ART 100 - Art Appreciation 3 Hours
Prerequisite: None
This course is designed to help the student find personal meaning in works of art and develop a better understanding of the nature and validity of art. Emphasis is placed on the diversity of form and content in original art work. Upon completion, the student should understand the fundamentals of art and the materials used, as well as have a basic overview of the history of art.

ART 109 - Art Museum Survey 3 Hours
This course covers the art experienced through supervised visits to museums and art galleries. Emphasis is placed on learning through critical study. Upon completion, the student should be able to write a critical analysis of the art work experienced that demonstrates an understanding of aesthetics.

ART 113 - Drawing I 3 Hours
This course provides the opportunity to develop perceptional and technical skills in a variety of media. Emphasis is placed on communication through experimenting with composition, subject matter, and technique. Upon completion, the student should demonstrate and apply the fundamentals of art to various creative drawing projects.

ART 114 - Drawing II 3 Hours
Prerequisite: ART 113.
This course advances the student’s drawing skills in various art media. Emphasis is placed on communication through experimentation, composition, technique, and personal expression. Upon completion, the student should demonstrate creative drawing skills, the application of the fundamentals of art, and the communication of personal thoughts and feelings.

ART 121 – Two-Dimensional Composition I 3 Hours
This course introduces the basic concepts of two-dimensional design. Topics include the elements and principles of design with emphasis on the arrangements and relationships among them. Upon completion, the student should demonstrate an effective use of these elements and principles of design in creating two-dimensional compositions.

ART 127 – Three-Dimensional Composition 3 Hours
Prerequisite: ART 113 or ART 121.
This course introduces art materials and principles of design acquainting the beginner with the fundamentals of three-dimensional art. Emphasis is placed on the use of art fundamentals and the creative exploration of materials in constructing three-dimensional art works. Upon completion, the student should demonstrate basic technical skills and a personal awareness of the creative potential inherent in three-dimensional art forms.

ART 143 - Crafts II 3 Hours
This course is an introduction to various creative crafts, which may include work with fibers, metal, glass, or other media. Emphasis is placed on processes, techniques, materials, and creative expression. Upon completion, the student should be able to demonstrate creative uses of materials, knowledge of the fundamentals of art, and an understanding of craftsmanship and aesthetic quality.

ART 173 - Photography I 3 Hours
Note: A 35mm single-lens reflex camera is required.
This course is an introduction to the art of photography. Emphasis is placed on the technical and aesthetic aspects of photography with detailed instruction in darkroom techniques. Upon completion, the student should understand films, chemicals, papers, and the camera as a creative tool. Composition and history is also included in the course.

ART 174 - Photography II 3 Hours
Prerequisite: ART 173
Note: A 35mm single-lens reflex camera is required.
This course advances the students’ technical and aesthetic knowledge of photography beyond the introductory level. Emphasis is placed on photographic composition and darkroom techniques as a means of communication. Upon completion, the student should demonstrate creative and communication skills through the photographic process.

ART 175 - Digital Photography 3 Hours
Note: The student needs a digital single-lens reflex camera.
This course introduces student to digital imaging techniques. Emphasis is placed on the technical application of the camera, digital photographic lighting methods, and overall composition. Upon completion, students should be able to take digital images and understand the technical aspects of producing high quality photos.
ART 180 - Introduction to Graphic Design  3 Hours
This course is a general introduction to graphic design. Topics include history, processes, and production design. Upon completion, the student should understand the concepts used to create media graphics.

ART 203 - Art History I  3 Hours
Prerequisite: RDG 085 or higher placement
This course covers the chronological development of different forms of art, such as sculpture, painting, and architecture. Emphasis is placed on history from the ancient period through the Renaissance. Upon completion, the student should be able to communicate a knowledge of time period and chronological sequence including a knowledge of themes, styles, and societal impact on the arts.

ART 204 - Art History II  3 Hours
Prerequisite: RDG 085 or higher placement
This course covers a study of the chronological development of different forms of art, such as sculpture, painting, and architecture. Emphasis is placed on history from the Baroque to the present. Upon completion, the student should be able to communicate a knowledge of time period and chronological sequence including a knowledge of themes, styles, and societal impact on the arts.

ART 231 - Watercolor Painting I  3 Hours
Prerequisite: ART 113 or ART 121
This course introduces materials and techniques appropriate to painting on paper with water-based medium. Emphasis is placed on developing the technical skills and the expressive qualities of watercolor painting. Upon completion, the student should be able to demonstrate a basic proficiency in handling the techniques of watercolor and how it can be used for personal expression.

ART 232 - Watercolor Painting II  3 Hours
Prerequisite: ART 231
This course advances the skills and techniques of painting on paper using water-based medium. Emphasis is placed on exploring the creative uses of watercolor and developing professional skills. Upon completion, the student should demonstrate and compile a body of original paintings reflecting a personal awareness of the media’s potential.

ART 233 - Painting I  3 Hours
Prerequisite: ART 113 or ART 121
This course is designed to introduce the student to fundamental painting processes and materials. Topics include art fundamentals, color theory, and composition. Upon completion, the student should be able to demonstrate the fundamentals of art and discuss various approaches to the media and the creative processes associated with painting.

ART 234 - Painting II  3 Hours
Prerequisite: ART 233
This course is designed to develop the student’s knowledge of the materials and procedures of painting beyond the introductory level. Emphasis is placed on the creative and technical problems associated with communicating through composition and style. Upon completion, the student should be able to demonstrate the application of the fundamentals of painting and the creative process to the communication of ideas.

ART 243 - Sculpture I  3 Hours
Prerequisite: ART 125 or ART 127
This course provides a study of three-dimensional form by familiarizing students with sculpting media and techniques. Topics include the fundamentals of art and sculpting media with emphasis on the creative process. Upon completion, the student should understand the fundamentals of art and three-dimensional form, as well as the various media and processes associated with sculpture.

ART 244 - Sculpture II  3 Hours
Prerequisite: ART 243
This course is designed to sharpen the student’s skills in the media and processes of sculpture. Emphasis is placed on personal expression through three-dimensional form. Upon completion, the student should be able to apply the fundamentals of art, knowledge of form, and the sculptural processes to communicating ideas.

ART 275 - Advanced Digital Photography  3 Hours
Prerequisite: ART 175
This course explores various uses of digital photography. Subject areas may include studio, portrait, and landscape photography.
Upon completion, the student should be able to apply the techniques necessary to produce professional photographs of a variety of subjects.

**ART 291 - Supervised Study in Studio Art I**  
**Prerequisite:** Permission of instructor  
This course is designed to enable the student to continue studio experiences in greater depth. Topics are to be chosen by the student with the approval of the instructor. Upon completion, the student should have a greater expertise in a particular area of art.

**ART 292 - Supervised Study in Studio Art II**  
**Prerequisite:** ART 291  
This course is designed to enable the student to continue studio experiences in greater depth. Topics are to be chosen by the student with the approval of the instructor. Upon completion, the student should have greater expertise in a particular area of art.

**AST - Astronomy**

**AST 220 - Introduction to Astronomy**  
**Prerequisite:** RDG 085 and ENG 092 or higher placement  
This course covers the history of astronomy and the development of astronomical thought leading to the birth of modern astronomy and its most recent developments. Emphasis is placed on the coverage of astronomical instruments and measuring technologies, the solar system, the Milky Way galaxy, important extra-galactic objects, and cosmology. Laboratory is required.

**AUM - Automotive Technology**

**AUM 101 - Fundamentals of Automotive Technology**  
**Prerequisite or Co-Requisite:** AUM 101  
This course provides basic instruction in fundamentals of automotive technology. This is a **CORE** course.

**AUM 112 - Electrical Fundamentals**  
This is an introductory course in automotive electrical and electronic systems. Emphasis is placed on troubleshooting and repair of systems, subsystems, and components. This is a **CORE** course.

**AUM 121 - Braking Systems**  
This course provides instruction in automotive technology and auto mechanics. Emphasis is placed on the practical application of brakes. This is a **CORE** course.

**AUM 122 - Steering and Suspension**  
This course provides instruction in automotive technology and auto mechanics. Emphasis is placed on the practical application of steering and suspension. This is a **CORE** course.

**AUM 124 – Automotive Engines**  
**Prerequisite or Co-Requisite:** AUM 101  
This course provides instruction on the operation, design, and superficial repair of automotive engines. Emphasis is placed on understanding the four stroke cycle, intake and exhaust manifolds and related parts, engine mechanical timing components, engine cooling and lubrication system principles and repairs, and basic fuel and ignition operation. This is a **CORE** course.

**AUM 130 - Drive Train and Axles**  
**Prerequisite or Co-Requisite:** AUM 101  
This course provides basic instruction in automotive drive trains and axles. Emphasis is placed on the understanding and application of basic internal and external operations relating to proper operation and drivability. This is a **CORE** course.

**AUM 133 - Motor Vehicle Air Conditioning**  
This course provides basic instruction in theory, operation, and repair of automotive heating and air conditioning systems. Emphasis is placed on the understanding and repair of vehicle air conditioning and heating systems, including but not limited to air management, electrical and vacuum controls, refrigerant recovery, and component replacement.

**AUM 181 - Special Topics**  
**Prerequisite:** With Instructor Permission  
This course is designed to allow the student to specialize in a particular area of study with minimum instruction in automotive mechanics application and with evaluation at the instructor’s discretion. Emphasis is placed on a topic/project that the student is interested in and may include any related area in automotive mechanics. Upon completion, the student should be able to work with minimum instruction and execute the necessary techniques to finish a live work project of choice.
AUM 182 - Special Topics 2 Hours: 6L
Prerequisite: With Instructor Permission
This course is designed to allow the student to specialize in a particular area of study with minimum instruction in automotive mechanics application and with evaluation at the instructor’s discretion. Emphasis is placed on a topic/project that the student is interested in and may include any related area in automotive mechanics. Upon completion, the student should be able to work with minimum instruction and execute the necessary techniques to finish a live work project of choice.

AUM 191 - CO-OP 2 Hours: 10i
Prerequisite: With Instructor Permission
This course constitutes a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In these courses, the employer evaluates the student’s productivity, and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.

AUM 212 – Advanced Electrical and Electronic Systems 3 Hours: 1T, 5L
Prerequisite: AUM 110
This course provides instruction in advanced automotive electrical and electronic systems. Emphasis is placed on advanced troubleshooting and repair of electrical systems, subsystems, and components.

AUM 220 - Engine Repair II 3 Hours: 1T, 5L
This course provides in-depth instruction concerning internal engine diagnosis; overhaul and repair, including but not necessarily limited to the replacement of timing chains, belts, and gears and the replacement or reconditioning of valve train components, as well as replacement of pistons, connecting rods, piston rings, bearings, lubrication system components, gaskets, and oil seals.

AUM 224 - Manual Transmission and Transaxle 3 Hours: 1T, 4L
This course covers basic instruction in manual transmissions and transaxles. Emphasis is placed on the understanding and application of basic internal and external operations relating to proper operation and drivability.

AUM 230 - Auto Transmission and Transaxle 3 Hours: 1T, 4L
This course provides basic instruction in automatic transmissions and transaxles. Emphasis is placed on the comprehension of principles and power flow of automatic transmissions and repairing or replacing internal and external components. This is a CORE course.

AUM 239 - Engine Performance I 3 Hours: 1T, 5L
This course provides basic instruction in engine performance with emphasis on fuel and ignition systems relating to engine operation. This is a CORE course.

AUM 244 - Engine Performance and Diagnostics 3 Hours: 1T, 5L
This course provides advanced instruction in engine performance. Emphasis is placed on engine management, computer controls of ignition fuel, and emissions systems relating to engine performance and drivability. This is a CORE course.

AUM 246 - Automotive Emissions 3 Hours: 1T, 5L
This is an introductory course in automotive emission systems. Emphasis is placed on troubleshooting and repair of systems, subsystems, and components.

AUM 281 - Special Topics 3 Hours: 9L
Prerequisite: With Instructor Permission
This course is designed to allow the student to specialize in a particular area of study with minimum instruction in automotive mechanics application and with evaluation at the instructor’s discretion. Emphasis is placed on a topic/project that the student is interested in and may include any related area in automotive mechanics. Upon completion, the student should be able to work with minimum instruction and execute the necessary techniques to finish a live work project of his or her choice.

AUM 291 - CO-OP 3 Hours: 15i
Prerequisite: With Instructor Permission
This course constitutes a series wherein the student works on a part-time basis in a job directly related to automotive mechanics. In this course, the employer evaluates the student’s productivity, and the student submits a descriptive report of his work experiences. Upon completion, the student will demonstrate skills learned in an employment setting.
**BIO - Biology**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 101 - Introduction to Biology I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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</tr>
<tr>
<td><strong>Note:</strong> Credit toward graduation will not be given for both BIO 101 and BIO 103.</td>
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</tr>
<tr>
<td>Introduction to Biology I is the first of a two-course sequence designed for non-science majors. It covers historical studies illustrating the scientific method, cellular structure, bioenergetics, cell reproduction, Mendelian and molecular genetics, and a survey of human organ systems. A 120 minute laboratory is required.</td>
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</tr>
<tr>
<td>BIO 102 - Introduction to Biology II</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> A letter grade of C or higher in BIO 101</td>
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</tr>
<tr>
<td>Introduction to Biology II is the second of a two-course sequence for non-science majors. It covers evolutionary principles and relationships, environmental and ecological topics, classification, and a survey of biodiversity. A 120 minute laboratory is required. (Online Only)</td>
<td></td>
</tr>
<tr>
<td>BIO 103 - Principles of Biology I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
<td></td>
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<tr>
<td><strong>Note:</strong> Credit toward graduation will not be given for both BIO 101 and 103.</td>
<td></td>
</tr>
<tr>
<td>This is an introductory course for science and non-science majors. It covers physical, chemical, and biological principles common to all organisms. These principles are explained through a study of cell structure and function, cellular reproduction, basic biochemistry, cell energetics, the process of photosynthesis, and Mendelian and molecular genetics. Also included are the scientific method, basic principles of evolution, and an overview of the diversity of life with emphasis on viruses, prokaryotes, and protists. A 120 minute laboratory is required.</td>
<td></td>
</tr>
<tr>
<td>BIO 104 - Principles of Biology II</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> A letter grade of C or higher in BIO 103</td>
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<tr>
<td>This course is an introduction to the basic ecological and evolutionary relationships of plants and animals as well as a survey of plant and animal diversity including classification, morphology, physiology, and reproduction. A 180 minute laboratory is required.</td>
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<tr>
<td>This is a <strong>CORE</strong> course.</td>
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<tr>
<td>BIO 120 - Medical Terminology</td>
<td>3</td>
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<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>This course is a survey of words, terms, and descriptions commonly used in medical arts. Emphasis is placed on spelling, pronunciation, and meanings of prefixes, suffixes, and roots. No laboratory is required.</td>
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<tr>
<td>BIO 150 - Human Biology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>This course introduces the human body with emphasis on structure, function, and pathology. No laboratory is required.</td>
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<tr>
<td>BIO 201 - Human Anatomy and Physiology I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> A letter grade of C or higher in BIO 103</td>
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</tr>
<tr>
<td><strong>Note:</strong> BIO 201 cannot be used for Area III credit for the AA and AS degrees.</td>
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<tr>
<td>Human Anatomy and Physiology I covers the structure and function of the human body. Included is an orientation of the human body; basic principles of chemistry; a study of cells and tissues; metabolism; joints; the integumentary, skeletal, muscular, and nervous systems; and the senses. Dissection, histological studies, and physiology are featured in the laboratory experience. A 120 minute laboratory is required.</td>
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<tr>
<td>BIO 202 - Human Anatomy and Physiology II</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> BIO 103 with a letter grade of C or higher and BIO 201 with a letter grade of C or higher</td>
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</tr>
<tr>
<td><strong>Note:</strong> BIO 202 cannot be used for Area III credit for the AA and AS degrees.</td>
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<tr>
<td>Human Anatomy and Physiology II covers the structure and function of the human body. Included is a study of basic nutrition; basic principles of water, electrolyte, and acid-base balance; as well as the endocrine, respiratory, digestive, excretory, cardiovascular, lymphatic, and reproductive systems. Dissection, histological studies, and physiology are featured in the laboratory experience. A 120 minute laboratory is required.</td>
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</tr>
<tr>
<td>BIO 220 - General Microbiology</td>
<td>4</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> BIO 103 with a letter grade of C or higher and BIO 201 and BIO 202 with a letter grade of C or higher (Additionally, four (4) semester hours of chemistry is recommended.)</td>
<td></td>
</tr>
</tbody>
</table>
| This course includes historical perspectives, cell structure and function, microbial genetics, infectious diseases, immunology,
distribution, physiology, culture, identification, classification, and disease control of microorganisms. The laboratory experience includes micro-techniques, distribution, culture, identification, and control. Two 120 minute laboratories are required.

### BSS - Basic Study Skills/Personal Development

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSS 090</td>
<td>Basic Study Skills</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085</td>
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<tr>
<td></td>
<td><strong>Prerequisite:</strong> ENG 093</td>
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<td></td>
<td><strong>Prerequisite:</strong> higher placement</td>
<td></td>
</tr>
<tr>
<td>BSS 118</td>
<td>College Study Skills</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 093 or higher placement</td>
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</tbody>
</table>

This course is designed to introduce the student to the basic skills of studying. The course includes activities such as an assessment through testing of academic/study strengths and weaknesses, general information about effective study techniques, and applications of study techniques for specific courses.

### BUS - Business

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BUS 100</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085 or higher placement</td>
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</tr>
<tr>
<td>BUS 146</td>
<td>Personal Finance</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085 or higher placement</td>
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</tr>
<tr>
<td>BUS 186</td>
<td>Elements of Supervision</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085 or higher placement</td>
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</tr>
<tr>
<td>BUS 189</td>
<td>Human Relationships</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085 or higher placement</td>
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<tr>
<td>BUS 215</td>
<td>Business Communication</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Prerequisite:</strong> RDG 085 or higher placement</td>
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<tr>
<td>BUS 241</td>
<td>Principles of Accounting I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Prerequisite:</strong> Grade of C or higher in MTH 100 or MTH 116, RDG 085 or higher placement</td>
<td></td>
</tr>
<tr>
<td>BUS 242</td>
<td>Principles of Accounting II</td>
<td>3</td>
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<tr>
<td></td>
<td><strong>Prerequisite:</strong> BUS 241</td>
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</tbody>
</table>

This course is a survey course designed to acquaint the student with American business as a dynamic process in a global setting. Topics include the private enterprise system, forms of business ownership, marketing, factors of production, personnel, labor, finance, and taxation.

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

This course is a survey of topics of interest to the consumer. Topics include budgeting, financial institutions, basic income tax, credit, consumer protection, insurance, house purchasing, retirement planning, estate planning, investing, and consumer purchasing.

This course is an introduction to the fundamentals of supervision. Topics include the functions of management, responsibilities of the supervisor, management-employee relations, organizational structure, project management, and employee training and rating.

This course enables employees to better understand actions and motivations within the organizational structure. Topics include general principles of human behavior operating in the workplace.

This course covers written, oral, and nonverbal communications. Topics include the application of communication principles to the production of clear, correct, and logically organized faxes, emails, memos, letters, resumes, reports, and other business communications.

This course is designed to provide a basic theory of accounting principles and practices used by service and merchandising enterprises. Emphasis is placed on financial accounting, including the accounting cycle and financial statement preparation analysis.

This course is a continuation of BUS 241. In addition to a study of financial accounting, this course also places emphasis upon managerial accounting with coverage of corporations, statement analysis, introductory cost accounting, and use of information for planning, control, and decision making.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 260</td>
<td>Statistical Data Analysis</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>CIS 146 and MTH 112 or higher placement score</td>
<td></td>
</tr>
<tr>
<td>BUS 263</td>
<td>The Legal and Social Environment of Business</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 or higher placement</td>
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</tr>
<tr>
<td>BUS 275</td>
<td>Principles of Management</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 or higher placement</td>
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<tr>
<td>BUS 276</td>
<td>Human Resource Management</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 or higher placement</td>
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<tr>
<td>BUS 279</td>
<td>Small Business Management</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 or higher placement</td>
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</tr>
<tr>
<td>BUS 285</td>
<td>Principles of Marketing</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 or higher placement</td>
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</tr>
<tr>
<td>CHD 100</td>
<td>Introduction to Early Care and Education of Children</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>CHD 201</td>
<td>Child Growth and Development Principles</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 and ENG 092 or higher placement</td>
<td></td>
</tr>
<tr>
<td>CHD 202</td>
<td>Children’s Creative Experiences</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 and ENG 092 or higher placement</td>
<td></td>
</tr>
<tr>
<td>CHD 203</td>
<td>Children’s Literature and Language Development</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 and ENG 092 or higher placement</td>
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</tbody>
</table>
pre-reading, and writing skills. Emphasis is placed on developmental appropriateness as related to language. Upon completion, the student should be able to create, evaluate, and demonstrate activities which support a language-rich environment for young children. This is a CORE course.

**CHD 204 - Methods and Materials for Teaching Children**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course introduces basic methods and materials used in teaching young children. Emphasis is placed on the student compiling a professional resource file of activities used for teaching math, language arts, science, and social studies concepts. Upon completion students will be able to demonstrate basic methods of creating learning experiences using developmentally appropriate techniques, materials, and realistic expectations, including infant, toddler, and pre-school years. The course includes observations of young children in a variety of childcare environments. This is a CORE course.

**CHD 205 - Program Planning for Educating Young Children**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course provides students with knowledge to develop programs for early child development. Specific content includes a review of child development concepts and program contents. Upon completion students will be able to develop and evaluate effective programs for the education of young children.

**CHD 206 - Children's Health and Safety**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course introduces basic health, nutrition, and safety management practices for young children. Emphasis is placed on setting up and maintaining a safe, healthy environment for young children, including specific procedures for infants and toddlers and procedures regarding childhood illnesses and communicable diseases. This is a CORE course.

**CHD 208 - Administration of Child Development Programs**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course includes appropriate administrative policies and procedures relevant to preschool programs. Topics include local, state, and federal regulations; budget planning; record keeping; personnel policies; and parent involvement. Upon completion, the student should be able to identify elements of a sound business plan, develop familiarity with basic record-keeping techniques, and identify elements of a developmentally appropriate program.

**CHD 209 - Infant and Toddler Education Programs**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course focuses on child development from infancy to thirty-five months of age with emphasis on planning programs using developmentally-appropriate material. Emphasis is placed on positive ways to support an infant and toddler’s social, emotional, physical, and intellectual development. Upon completion, the student should be able to plan an infant-toddler program and environment which is appropriate and supportive of the families and the children.

**CHD 210 - Educating Exceptional Young Children**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course explores the many different types of exceptionalities found in young children. Topics include speech, language, hearing, and visual impairments; gifted and talented children; mental retardation; and emotional, behavioral, and neurological handicaps. Upon completion, the student should be able to identify appropriate strategies for working with young exceptional children. This is a CORE course.

**CHD 214 - Families and Communities**

*Prerequisite: RDG 085 and ENG 092 or higher placement*

This course provides students with information about working with diverse families and communities. Students will be introduced to family and community settings, the importance of relationships with children, and the pressing needs of today's society. Students will study and practice techniques for developing these important relationships and effective communication skills.

**CHD 215 - Supervised Practical Experience in Childhood Development**

*Prerequisite: CHD 202, CHD 204, and CHD 205*

This course provides a minimum of ninety (90) hours of hands-on, supervised experience in an approved program for young children. Emphasis is placed on performance of daily duties assessed by the instructor and the cooperating teacher. Students will develop a portfolio documenting experiences gained during this course.
**CFS – Commercial Food Services**

**CFS 199 – Healthy Cooking**

1 Hr. This course is designed to allow the students to become educated in the principles of sound nutrition for the prevention of disease through a lecture/lab course. Basic principles of nutrition will be discussed along with practical aspects of nutrition which will be applied through cooking demonstrations by the instructor.

**CHM - Chemistry**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>CHM 104</td>
<td>Introduction to Inorganic Chemistry</td>
<td>4 Hours</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong></td>
<td>A letter grade of B or higher in MTH 092 or equivalent mathematics placement score, RDG 085, and ENG 092 or higher placement</td>
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<tr>
<td>This is a survey course of general chemistry for students who do not intend to major in science or engineering and may not be substituted for CHM 111. Lectures will emphasize the facts, principles, and theories of general chemistry including math operations, matter and energy, atomic structure, symbols and formulas, nomenclature, the periodic table, bonding concepts, equations, reactions, stoichiometry, gas laws, phases of matter, solutions, pH, and equilibrium reactions. Laboratory is required.</td>
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</table>

| CHM 105                      | Introduction to Organic Chemistry         | 4 Hours      |
| **Prerequisite:**            | A letter grade of C or higher in CHM 104 or CHM 111 |
| This is a survey course of organic chemistry and biochemistry for students who do not intend to major in science or engineering. Topics will include basic nomenclature, classification of organic compounds, typical organic reactions, reactions involved in life processes, function of biomolecules, and the handling and disposal of organic compounds. Laboratory is required. |

| CHM 111                      | College Chemistry I                       | 4 Hours      |
| **Prerequisite:**            | A letter grade of C or higher in MTH 112 or equivalent math placement score, RDG 085, and ENG 092 or higher placement |
| This is the first course in a two-semester sequence designed for the science or engineering major expected to have a strong background in mathematics. Topics in this course include measurement, nomenclature, stoichiometry, atomic structure, equations and reactions, basic concepts of thermo-chemistry, chemical and physical properties, bonding, molecular structure, gas laws, kinetic-molecular theory, condensed matter, solutions, colloids, and some descriptive chemistry topics. Laboratory is required. |

| CHM 112                      | College Chemistry II                     | 4 Hours      |
| **Prerequisite:**            | A letter grade of C or higher in CHM 111 |
| This is the second course in a two-semester sequence designed primarily for the science and engineering student expected to have a strong background in mathematics. Topics in this course include chemical kinetics, chemical equilibria, acids and bases, ionic equilibria of weak electrolytes, solubility product principle, chemical thermodynamics, electrochemistry, oxidation-reduction, nuclear chemistry, an introduction to organic chemistry and biochemistry, atmospheric chemistry, and selected topics in descriptive chemistry including the metals, non-metals, semi-metals, coordination compounds, transition compounds, and post-transition compounds. Laboratory is required. |

| CHM 221                      | Organic Chemistry I                      | 4 Hours      |
| **Prerequisite:**            | A letter grade of C or higher in CHM 112 |
| This is the first course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis, and typical reactions for aliphatic, alicyclic, and aromatic compounds with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and includes the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. |

| CHM 222                      | Organic Chemistry II                     | 4 Hours      |
| **Prerequisite:**            | A letter grade of C or higher in CHM 221 |
| This is the second course in a two-semester sequence. Topics in this course include nomenclature, structure, physical and chemical properties, synthesis, and typical reactions for aliphatic, alicyclic, aromatic, and biological compounds, polymers and their derivatives, with special emphasis on reaction mechanisms, spectroscopy, and stereochemistry. Laboratory is required and includes the synthesis and confirmation of representative organic compounds with emphasis on basic techniques. |

**CIS - Computer Science**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>CIS 117</td>
<td>Database Management Software Applications</td>
<td>3 Hours</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong></td>
<td>A letter grade of B or higher in MTH 092 or MTH 100 or higher placement or completion, RDG 085 or higher placement</td>
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<tr>
<td>This course provides students with hands-on experience using database management software. The student will develop skills common to most database management software by developing a wide variety of databases. Emphasis is on planning, developing, and editing functions associated with database management.</td>
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</table>
CIS 146 - Microcomputer Applications  
**Prerequisite:** RDG 085 or higher placement  
This course is an introduction to the most common software applications of microcomputers and includes hands-on use of microcomputers and some of the major commercial software. These software packages should include typical features of office suites, such as word processing, spreadsheets, database systems, and other features found in current software packages. Upon completion, the student should understand common applications and be able to utilize selected features of these packages. This course will help prepare the students for the MOS and IC³ certification.

CIS 191 – Introduction to Computer Programming Concepts  
**Prerequisite:** MTH 100 or MTH 116 or equivalent placement  
**Co-requisite:** CIS 193A  
This course introduces fundamental concepts, including an algorithmic approach to problem solving via the design and implementation of programs in selected languages. Structured programming techniques involving input/output, conditional statements, loops, files, arrays and structures, and simple data structures are introduced. Students are expected to write programs as part of this course.

CIS 193A – Introduction to Computer Programming Lab  
**1 Hr. Co-requisite:** CIS 191  
This lab is designed to allow instructors to provide additional implementation of programming concepts as needed. This lab course accompanies CIS 191.

CIS 193B – Introduction to Computer Programming Lab  
**Co-requisite:** CIS 251  
This lab is designed to allow instructors to provide additional implementation of programming concepts as needed. This lab course accompanies CIS 251.

CIS 193C – Introduction to Computer Programming Lab  
**Co-requisite:** CIS 252  
This lab is designed to allow instructors to provide additional implementation of programming concepts as needed. This lab course accompanies CIS 252.

CIS 193D – Introduction to Computer Programming Lab  
**Co-requisite:** CIS 281  
This lab is designed to allow instructors to provide additional implementation of programming concepts as needed. This lab course accompanies CIS 281.

CIS 196C – Office Applications  
**Prerequisite:** OAD 101 or CIS 146  
This course is designed to provide the student with a foundation in the use of computerized equipment and application software as tools in the performance of a variety of office tasks through classroom instruction and lab exercises. Emphasis is on the role of the office professional in the selection and application of appropriate technology to the specific task or combination of tasks. Upon completion, the student should be able to demonstrate proficiency in the selection of appropriate computerized tools to complete designated tasks.

CIS 196E - Microsoft Excel  
**Prerequisite:** OAD 101, RDG 085 or higher placement  
This course is designed to provide the student with a firm foundation in the use of computerized equipment and appropriate software in performing spreadsheet tasks through classroom instruction and outside lab. Emphasis is on spreadsheet terminology and design, common formulas, and proper file and disk management procedures. Upon completion, the student should be able to use spreadsheet features to design, format, and graph effective spreadsheets.

CIS 203 - Introduction to the Information Highway  
**Prerequisite:** CIS 146.  
This course introduces the student to the basic principles of the information highway. The student will be exposed to different network information tools such as electronic mail, network news, gophers, the World Wide Web, browsers, commercial information services, and the use of appropriate editors or software to introduce construction of web environments.
CIS 251 - C++ Programming            3 Hours
Prerequisite: RDG 085 or higher placement
Co-requisite: CIS 193B
This course is an introduction to the C++ programming language including object-oriented programming. Topics include problem solving and design, control structures, objects and events, user interface construction, and document and program testing. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.

CIS 252 – Advanced C++ Programming       3 Hours
Prerequisite: CIS 251
Co-requisite: CIS 193C
This course is a continuation of C++ programming. Techniques for the improvement of application and systems programming will be covered, and other topics may include memory management, C Library functions, debugging, portability, and reusable code. Upon completion, the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.

CIS 281 – System Analysis and Design       3 Hours
Prerequisite: MTH 116, MTH 100, or higher placement or completion and CIS 191 or CIS 251
Co-Requisite: CIS 193D
This course is a study of contemporary theory and systems analysis design. Emphasis is placed on investigating, analyzing, designing, implementing, and documenting computer systems. Upon completion the student will be able to demonstrate knowledge of the topics through the completion of programming projects and appropriate tests.

CIS 286 - Computerized Management Info Systems      3 Hours
Prerequisite: MTH 100 or MTH 116 placement and one of the following: CIS 146 or CIS 251
This course covers the nature of computerized management information systems, problems created by the computer relative to personnel, components of computer systems, programming, and application of computers to business problems.

CIS 299 - Directed Studies in Computer Science      1-3 Hours
Prerequisite: Permission of instructor
This course allows independent study under the direction of an instructor. Topics to be included in the course material will be approved by the instructor prior to or at the beginning of the class. Upon completion, the student should be able to demonstrate knowledge of the topics as specified by the instructor.

CIT - Cosmetology Instructor Training

CIT 211 - Teaching and Curriculum Development 3 Hours: 3T
Co-Requisite: CIT 212 and CIT 213
This course focuses on principles of teaching, teaching maturity, professional conduct, and the development of cosmetology curriculum. Emphasis is placed on teacher roles, teaching styles, teacher challenges, aspects of curriculum development, and individual course design. Upon completion, the student should be able to describe the role of teacher, identify means of motivating students, develop a course outline, and develop lesson plans.

CIT 212 - Teacher Mentorship            3 Hours: 6L
Co-Requisite: CIT 211 and CIT 213
This course is designed to provide practice through working with a cosmetology instructor in a mentoring relationship. Emphasis is placed on communication, student assessment, and lab assistance for students. Upon completion, the student should be able to communicate with students, develop a course of study, and apply appropriate teaching methods.

CIT 213 - Cosmetology Instructor CO-OP         3 Hours: 6L
Co-Requisite: CIT 211 and CIT 212
This course provides students with additional opportunities to observe instructors and develop teaching materials and skills.

CIT 221 - Lesson Plan Implementation      3 Hours: 6 L
Prerequisite: CIT 211, CIT 212, and CIT 213
Co-Requisite: CIT 222, CIT 223, and CIT 225
This course is designed to provide practice in preparing and using lesson plans. Emphasis is placed on organizing, writing, and presenting lesson plans using the four-step teaching method. Upon completion, the student should be able to prepare and present a lesson using the four step teaching method.
**CIT 222 - Audiovisual Materials and Methods**

**Prerequisite:** CIT 211, CIT 212, and CIT 213  
**Co-Requisite:** CIT 221, CIT 223, and CIT 225  

This course focuses on audiovisual aids and materials. Emphasis is placed on the use and characteristics of instructional aids. Upon completion, the student should be able to prepare teaching aids and determine their most effective use.

**CIT 223 - Audiovisual Materials/Methods Applications**

**Prerequisite:** CIT 211, CIT 212, and CIT 213  
**Co-Requisite:** CIT 221, CIT 222, and CIT 225  

This course is designed to provide practice in preparing and using audiovisual aids and materials. Emphasis is placed on the preparation and use of different categories of instructional aids. Upon completion, the student should be able to prepare and effectively present different types of aids for use with a four step lesson plan.

**CIT 225 - Special Topics in Cosmetology Instruction**

**Prerequisite:** CIT 211, CIT 212, and CIT 213  
**Co-Requisite:** CIT 221, CIT 222, and CIT 223  

This course is designed to allow students to further develop their knowledge and skills as cosmetology instructors. Topics will be assigned based on individual student professional needs.

**CNC - Computerized Numerical Control**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours:</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CNC 101 - Introduction to CNC</td>
<td>6 Hours: 2T, 8L</td>
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<tr>
<td>CNC 102 - CNC Turning Operations</td>
<td>6 Hours: 3T, 6L</td>
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<td></td>
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<tr>
<td>CNC 103 - Manual Programming</td>
<td>6 Hours: 2T, 8L</td>
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<td></td>
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<tr>
<td>CNC 104 - CNC Milling Operations</td>
<td>6 Hours: 3T, 6L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CNC 181 - Special Topics in Computerized Numerical Control</td>
<td>3 Hours: 1T, 4L</td>
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<tr>
<td>CNC 215 - Quality Control and Assurance</td>
<td>3 Hours: 2T, 2L</td>
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<tr>
<td>CNC 216 - Quality Control II</td>
<td>3 Hours: 3T</td>
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<tr>
<td>CNC 217 - Tooling and Machining Data</td>
<td>3 Hours: 3T</td>
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</tr>
<tr>
<td>CNC 222 - Computer Numerical Control Graphics: Turning</td>
<td>3 Hours: 1T, 4L</td>
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</table>
geometry and part geometry. Upon completion, the student should be able to develop a job plan using CAM software, including machine selection, tool selection, operational sequence, speed, feed, and cutting depth.

CNC 223 - Computer Numerical Control Graphics Programming: Milling 3 Hours: 1T, 4L
This course introduces Computer Numerical Control graphics programming and concepts for machining center applications. Emphasis is placed on developing a shape file in a graphics CAM system and transferring coded information from CAM graphics to the CNC milling center. Upon completion, the student should be able to develop a complete job plan using CAM software to create a multi-axis CNC program.

CNC 230 - Computer Numerical Control Special Projects 3 Hours: 1T, 4L
This course is designed to allow the student to work in the lab with limited supervision. The student is to enhance proficiency levels on various CNC machine tools. Upon completion, the student is expected to plan, execute, and present results of advanced CNC products.

CNC 281 - Special Topics in Computerized Numerical Control 3 Hours: 1T, 4L
These courses provide specialized instruction in various areas related to CNC. Emphasis is placed on meeting student’s needs.

COS - Cosmetology

COS 111 - Introduction to Cosmetology 3 Hours: 3T
Co-Requisite: COS 112, COS 125, and COS 143
This course is designed to provide students with an overview of the history and development of cosmetology and standards of professional behavior. Students receive basic information regarding principles and practices of infection control, diseases, and disorders. Additionally, students receive introductory information regarding hair design. The information presented in this course is enhanced by hands-on applications performed in a controlled lab environment. Upon completion, the student should be able to apply safety rules and regulations and write procedures for skills identified in this course. This is a CORE course.

COS 112 - Introduction to Cosmetology Lab 3 Hours: 9L
Co-Requisite: COS 111, COS 125, and COS 143
In this course, students are provided the practical experience for sanitation, shampooing, hair shaping, and hairstyling. Emphasis is placed on disinfection, shampooing, hair shaping, and hairstyling for various types of hair for men and women. This course offers opportunities for students to put into practice concepts learned in the theory component from COS 111. This is a CORE course.

COS 113 - Theory of Chemical Services 3 Hours: 3T
Prerequisite: COS 111, COS 112, COS 125, and COS 143
Co-Requisite: COS 114, COS 115, and COS 116
During this course students learn concepts of theory of chemical services related to chemical hair texturing. Specific topics include basics of chemistry and electricity, properties of the hair and scalp, and chemical texture services. Safety considerations are emphasized throughout this course. This course is foundational for other courses providing more detailed instruction on these topics. This is a CORE course.

COS 114 - Chemical Services Lab 3 Hours: 6L
Prerequisite: COS 111, COS 112, COS 125, and COS 143
Co-Requisite: COS 115, COS 116, and COS 113
During this course students perform various chemical texturing activities. Emphasis is placed on cosmetologist and client safety, chemical use and handling, hair and scalp analysis, and client consulting. This is a CORE course.

COS 115 - Hair Coloring Theory 3 Hours: 3T
Prerequisite: COS 111, COS 112, COS 125, and COS 143
Co-Requisite: COS 113, COS 114, and COS 116
In this course, students learn the techniques of hair coloring and hair lightening. Emphasis is placed on color application, laws, levels and classifications of color, and problem solving. Upon completion, the student will be able to identify all classifications of hair coloring and the effects on the hair. This is a CORE course.

COS 116 - Hair Coloring Lab 3 Hours: 6L
Prerequisite: COS 111, COS 112, COS 125, and COS 143
Co-Requisite: COS 113, COS 114 and COS 115
In this course, students apply hair coloring and hair lightening techniques. Topics include consultation, hair analysis, skin test,
and procedures and applications of all classifications of hair coloring and lightening. Upon completion, the student will be able to perform procedures for hair coloring and hair lightening. This is a **CORE** course.

**COS 117 - Basic Spa Techniques**

*Prerequisite: COS 111, COS 112, COS 114, COS 115, COS 116, COS 125, COS 113, and COS 143*

*Co-Requisite: COS 118, COS 144, and COS 158*

This course is the study of cosmetic products, massage, skin care, and hair removal, as well as identifying the structure and function of various systems of the body. Topics include massage skin analysis, skin structure, disease and disorder, light therapy, facials, facial cosmetics, anatomy, hair removal, and nail care. Upon completion, the student will be able to state procedures for analysis, light therapy, facials, and hair removal and identify structures, functions, and disorders of the skin and nails. This is a **CORE** course.

**COS 118 - Basic Spa Techniques Lab**

*Prerequisite: COS 111, COS 112, COS 114, COS 115, COS 116, COS 125, COS 113, and COS 143*

*Co-Requisite: COS 117, COS 144, and COS 158*

This course provides practical applications related to the care of the skin and related structure. Emphasis is placed on facial treatments, product application, skin analysis, massage techniques, facial make-up, hair removal, and nail care. Upon completion, the student will be able to prepare clients, assemble sanitized materials, follow procedures for product application, recognize skin disorders, demonstrate facial massage movement, apply cosmetics, care for nails, and remove hair using safety and sanitary precautions. This is a **CORE** course.

**COS 125 - Career and Personal Development**


This course provides the study and practice of personal development and career building. Emphasis is placed on building and retaining clientele, communication skills, customer service, continuing education, and goal setting. Upon completion, the student will be able to communicate effectively and practice methods for building and retaining clientele.

**COS 133 - Salon Management Technology**

*Prerequisite: COS 111, COS 112, COS 114, COS 115, COS 116, COS 125, COS 117, COS 118, COS 113, COS 143, COS 144, and COS 158*

*Co-Requisite: COS 167, COS 182, and COS 191*

This course is designed to develop entry-level management skills for the beauty industry. Topics include job-seeking, leader and entrepreneurship development, business principles, business laws, insurance, marketing, and technology issues in the workplace. Upon completion, the student will have job-seeking and management skills, and know the technology available for use in the salon.

**COS 134 - Advanced Esthetics**

*Co-Requisite: COS 125, COS 135 and COS 168*

This course includes an advanced study of anatomy and physiology relating to skin care, cosmetic chemistry, histology of the skin, and massage and facial treatments. Upon completion, the student will be able to discuss the functions of the skin, effects of chemicals on skin, different types of massage and benefits, and key elements of the basic facial treatment.

**COS 135 - Advanced Esthetics Applications**

*Co-Requisite: COS 125, COS 134 and COS 168*

This course provides advanced practical applications related to skin care. Principal topics include massage techniques, various facial treatments, proper product application through skin analysis, and introduction to ingredients and treatments used by the esthetician. Upon completion, the student will be able to perform various massage techniques, prescribe proper types of facial treatments and products, and demonstrate facials using any of the eight functions of the facial machine.

**COS 143 - Specialty Hair Preparation Techniques**

*Co-Requisite: COS 111, COS 112, and COS 125*

This course focuses on the theory and practice of hair designing. Topics include creating styles using basic and advanced techniques of back combing, up-sweeps, and braiding. Upon completion, the student will be able to demonstrate the techniques and procedures for hair designing.

**COS 144 - Hair Shaping and Design**

*3 Hrs. Prerequisite: COS 111, COS 112, COS 114, COS 115, COS 116, COS 125, COS 113 and COS 143*

*Co-Requisite: COS 117, COS 118 and COS 158*

In this course, students learn the art and techniques of hair shaping. Topics include hair sectioning, correct use of hair shaping
implements, and elevations used to create design lines. Upon completion, the student will be able to demonstrate the techniques and procedures for creating hair designs.

**COS 151 - Nail Care**
3 Hours: 1T, 5L

Co-Requisite: COS 125 and COS 152

This course focuses on all aspects of nail care. Topics include salon conduct, professional ethics, sanitation, nail structure, manicuring, pedicuring, nail disorders, and the anatomy and physiology of the arm and hand. Upon completion, the student will demonstrate professional conduct, recognize nail disorders and diseases, and identify the procedures for sanitation and nail care services.

**COS 152 - Nail Care Applications**
3 Hours: 6L

Co-Requisite: COS 151 and COS 125

This course provides practice in all aspects of nail care. Topics include salon conduct, professional ethics, bacteriology, sanitation and safety, and manicuring and pedicuring. Upon completion, the student will be able to perform nail care procedures.

**COS 153 - Nail Art**
3 Hours: 1T, 5L

Prerequisite: COS 151, COS 152, and COS 125

Co-Requisite: COS 154, COS 162, and COS 191

This course focuses on advanced nail techniques. Topics include acrylic, gel, and fiberglass nails, as well as nail art. Upon completion, the student will identify the different types of sculptured nails and recognize the different techniques of nail art.

**COS 154 - Nail Art Applications**
3 Hours: 6L

Prerequisite: COS 151, COS 152, and COS 125

Co-Requisite: COS 153, COS 162, and COS 191

This course provides practice in advanced nail techniques. Topics include acrylic, gel, fiberglass nails, and nail art. Upon completion, the student will be able to perform the procedures for nail sculpturing and nail art.

**COS 158 - Employability Skills**
3 Hours: 3T

Prerequisite: COS 111, COS 112, COS 114, COS 115, COS 116, COS 125, COS 113, and COS 143

Co-Requisite: COS 117, COS 118, and COS 144

This course provides the study of marketable skills to prepare the student to enter the workforce. Emphasis is placed on resumes, interviews, client and business relations, personality, computer literacy, and attitude. Upon completion, the student will be prepared to obtain employment in the field.

**COS 162 - Special Topics in Cosmetology**
3 Hours: 6L

Prerequisite: COS 151, COS 152, and COS 125

Co-Requisite: COS 153, COS 154, and COS 191

This course is designed to allow students to explore issues relevant to the profession of cosmetology. Upon completion, the student will have developed new skills in areas of specialization for the cosmetology profession.

**COS 163 - Facial Treatments**
3 Hours: 1T, 5L

Prerequisite: COS 134, COS 135, COS 168, and COS 125

Co-Requisite: COS 164 and COS 169

This course includes all phases of facial treatments in the study of skin care. Topics include treatments for oily, dry, and special skin applications. Upon completion, the student will be able to apply facial treatments according to skin type.

**COS 164 - Facial Machine**
3 Hours: 6L

Prerequisite: COS 125, COS 134, COS 135, and COS 168

Co-Requisite: COS 163, COS 164, and COS 169

This is a course designed to provide practical experience using the vapor and facial machine with hydraulic chair. Topics include the uses of electricity and safety practices, machine and apparatus, use of the magnifying lamp, and light therapy. Upon completion, the student will be able to demonstrate an understanding of electrical safety and skills in the use of facial machines.

**COS 165 - Related Subjects Estheticians**
3 Hours: 6L

Prerequisite: COS 125, COS 134, COS 135, COS 163, COS 164, COS 168, and COS 169

Co-Requisite: COS 181 and COS 191

This course includes subjects related to the methods for removing unwanted hair. This course includes such topics as electrolysis information and definitions, safety methods of permanent hair removal, the practice of removal of superfluous hair, and the use of depilatories. Upon completion, the student will be able to apply depilatories and practice all safety precautions.
COS 167 - State Board Review
3 Hrs. Prerequisite: COS 111, COS 112, COS 114, COS 115, COS 116, COS 125, COS 117, COS 118, COS 113, COS 143, COS 144, and COS 158
Co-Requisite: COS 133, COS 182, and COS 191
The student is provided a complete review of all procedures and practical skills pertaining to training in the cosmetology program. Upon completion, the student will be able to demonstrate the practical skills necessary to successfully complete the required State Board of Cosmetology examination and entry-level employment.

COS 168 - Bacteriology and Sanitation
3 Hrs. Co-Requisite: COS 125, COS 134 and COS 135
In this skin care course, emphasis is placed on decontamination, infection control, and safety practiced in the esthetics facility. Topics covered include demonstration of sanitation, sterilization methods, and bacterial prevention. Upon completion, the student will be able to properly sanitize facial implements and identify non-reusable items.

COS 169 - Skin Functions
Prerequisite: COS 125, COS 134, COS 135, and COS 168
Co-Requisite: COS 163 and COS 164
This course introduces skin functions and disorders. Topics include practical application for skin disorder treatments, dermabrasion, and skin refining. Upon completion, the student will be able to demonstrate procedures for acne, facials, and masks for deeper layers and wrinkles.

COS 181 - Special Topics
Prerequisite: COS 125, COS 134, COS 135, COS 163, COS 164, COS 168, and COS 169
Co-Requisite: COS 165 and COS 191
This course is designed to allow students to explore issues relevant to the profession of cosmetology. Upon completion, students should have developed new skills in areas of specialization for the cosmetology professions.

COS 182 - Special Topics
Prerequisite: COS 111, COS 112, COS 113, COS 114, COS 115, COS 116, COS 125, COS 117, COS 118, COS 143, COS 144, and COS 158
Co-Requisite: COS 133, COS 167, and COS 191
This course is designed to allow students to explore issues relevant to the profession of cosmetology. Upon completion, students should have developed new skills in areas of specialization for the cosmetology professions.

COS 191 - CO-OP
Prerequisite: COS 111, COS 112, COS 113, COS 114, COS 115, COS 116, COS 117, COS 118, COS 125, COS 143, COS 144, and COS 158. Esthetics Only: COS 125, COS 134, COS 135, COS 163, COS 164, COS 168, and COS 169. Nail Tech Only: COS 125, COS 151, and COS 152
Cosmetology Only: COS 133, COS 182, and COS 167
This course provides work experience with a College-approved employer in an area related to the student’s program of study. Emphasis is placed on integrating classroom learning with related work experience. Upon completion, the student will evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

CRJ - Criminal Justice
CRJ 100 - Introduction to Criminal Justice
Prerequisite: RDG 085 and ENG 092 or higher placement
This course surveys the entire criminal justice process from law enforcement to the administration of justice through corrections. It discusses the history and philosophy of the system and introduces various career opportunities.

CRJ 110 - Introduction to Law Enforcement
Prerequisite: RDG 085 and ENG 092 or higher placement
This course examines the history and philosophy of law enforcement, as well as the organization and jurisdiction of local, state, and federal agencies. It includes the duties and functions of law enforcement officers.

CRJ 140 - Criminal Law and Procedure
Prerequisite: RDG 085 and ENG 092 or higher placement
This course examines both substantive and procedural law. The legal elements of various crimes are discussed with emphasis placed on the contents of the Alabama Code. Areas of criminal procedure essential to the criminal justice profession are also covered.
CRJ 147 - Constitutional Law
Prerequisite: RDG 085 and ENG 092 or higher placement
This course involves constitutional law as it applies to criminal justice. It includes recent Supreme Court decisions affecting criminal justice professionals, such as right to counsel, search and seizure, due process, and civil rights.

CRJ 150 - Introduction to Corrections
Prerequisite: RDG 085 and ENG 092 or higher placement
This course provides an introduction to the philosophical and historical foundations of corrections in America. Incarceration and some of its alternatives are considered.

CRJ 177 - Criminal and Deviant Behavior
Prerequisite: RDG 085 and ENG 092 or higher placement
This course analyzes criminal and deviant behavior systems. Emphasis is placed on sociological and psychological theories of crime causation.

CRJ 178 - Narcotics/Dangerous Drugs
Prerequisite: RDG 085 and ENG 092 or higher placement
This course surveys the history and development of drug abuse in society. Theories of drug abuse and the identification and classification of drugs are covered. Strategies for combating drug problems are discussed.

CRJ 216 - Police Organization and Administration
Prerequisite: RDG 085 and ENG 092 or higher placement
This course examines the principles of organization and administration of law enforcement agencies. Theories of management, budgeting, and various personnel issues are covered.

CRJ 220 - Criminal Investigation
Prerequisite: RDG 085 and ENG 092 or higher placement
This course explores the theory and scope of criminal investigation. The duties and responsibilities of the investigator are included. The techniques and strategies used in investigation are emphasized.

CRJ 226 - Fingerprint Science
Prerequisite: RDG 085 and ENG 092 or higher placement
This course involves the history, classification, and current procedures of handling latent fingerprints. Latent print examination, filing, and courtroom presentations are considered.

CRJ 227 - Homicide Investigation
Prerequisite: RDG 085 and ENG 092 or higher placement
This course covers the principles, techniques, and strategies of homicide investigation. Topics emphasized include ballistics, pathology, toxicology, immunology, jurisprudence, and psychiatry.

CRJ 230 - Criminalistics
Prerequisite: RDG 085 and ENG 092 or higher placement
This course surveys the different techniques of scientific investigation. Emphasis is given to ballistics, photography, fingerprints, DNA, trace evidence, body fluids, and casts.

CRJ 236 - Advanced Criminalistics
Prerequisite: RDG 085 and ENG 092 or higher placement
This course covers the collection, handling, and analysis of evidence from crime scene to laboratory to courtroom. Topics include hair, fibers, body fluids, firearms, glass, paint, drugs, and documents. Laboratory experience may be utilized.

CRJ 238 - Crime Scene Investigation
Prerequisite: RDG 085 and ENG 092 or higher placement
This course examines the fundamentals of crime scene investigation. Measuring and sketching the scene, photography, evidence collection and preservation, and courtroom procedures are considered.

CRJ 280 - Internship in Criminal Justice
Prerequisite: CRJ 230
This course involves practical experience with a criminal justice agency under faculty supervision. Permission of the instructor is required. This course may be repeated with the approval of the department head.
CRJ 290 - Selected Topics: Seminar in Criminal Justice

Prerequisite: RDG 085 and ENG 092 or higher placement

This course involves reading, research, writing, and discussion of selected subjects relating to criminal justice. Various contemporary problems in criminal justice are analyzed. This course may be repeated with approval from the department head.

CUA - Culinary Arts/Chef Training

CUA 101 - Orientation to the Hospitality Profession

This course introduces various facets and opportunities within the hospitality profession. The intent is for students to gain a broad base of information relative to the hospitality industry. Emphasis is placed on students comprehending their roles as a hospitality industry professionals. Topics include an overview of the hospitality profession, knowledge and skills necessary for successful employment, the impact of the hospitality profession on society, issues that impact various segments of the hospitality profession, and emerging trends. This is a CORE course.

CUA 102 - Catering

This course includes the theory and practice of operating a catering business. Topics include food production and management related to catering and other special services. Upon completion, the student will have a working knowledge of the principles involved in operating a catering business.

CUA 111 - Foundations in Nutrition

This course focuses on nutrition and meal planning in relation to the food preparation industry. Topics include the science of food and nutrition, essential nutrients and their relation to growth, auxiliary services, functioning of the body, nutritional requirements of different age levels, and economic and cultural influences on food selection. Upon completion, the student will be able to apply the basic principles of meal planning. This is a CORE course.

CUA 112 - Sanitation, Safety, and Food Service

This course introduces the basic principles of sanitation and safety to food service handling including purchasing, storing, preparing, and serving. Specific topics include the dangers of microbial contaminants, food allergens and foodborne illness, safe handling of food, the flow of food, and food safety management systems. At the conclusion of this course, students will be prepared to test for ServSafe© certification. The content of this course is foundational for all culinary arts classes. This is a CORE course.

CUA 113 - Table Service

This course is a guide for the modern wait staff. Topics include laying the cover, taking the order, surveying different styles of table service from the casual to the very formal, tabulating and presenting the bill, and bussing and turning the table. Upon completion, the student will be able to demonstrate proficiency in the art of table service.

CUA 114 - Meal Management

Prerequisite: CUA 125

This course covers the principles of meal management. Topics include menu planning, food selection, recipe standardization, food preparation, and meal service for all phases of food service. Upon completion, the student will be able to apply efficient work habits, as well as sanitation and safety in the kitchen.

CUA 115 - Advanced Food Preparation

Prerequisite: CUA 125

In this course, students apply food preparation and meal management skills in all areas of food service. Emphasis is placed on management and technical skills needed to operate a restaurant. Upon completion, the student will develop advanced skills in food preparation and meal management.

CUA 122 - Fundamentals of Quantity Cooking

Prerequisite: CUA 125

This course covers the principles and methods of quantity cooking. Topics include weights and measures, costs and conversion of recipes, vocabulary and standard abbreviations, health department regulations and inspection, and food production forms and records. Upon completion, the student will have a basic knowledge of the principles of quantity food production.

CUA 125 - Food Preparation

In this course students acquire fundamental knowledge and skills in preparing a variety of basic foods. Specific topics include safety, the history of food service, professional standards of conduct and ethics, credentialing, the kitchen brigade, tools, and techniques for preparing various types of food items. At the conclusion of this course, students will demonstrate basic food preparation skills.
CUA 130 - Chocolate and Truffles 3 Hours: 1T, 4L
Prerequisite: CUA 125
This course is a specialty hands-on course in chocolate, focusing on tempering, chocolate candy making, and the use of chocolate as a centerpiece medium. The student will have competency in chocolate to apply in the industry.

CUA 132 - Food Preparation and the Health Care Industry 3 Hours: 3T
This course introduces students to food preparation and service in the health care industry. Emphasis will be placed on using medical dictionaries, reading charts for therapeutic diet instruction, and designing and creating menus and diet programs for special client populations. Upon completion, the student will be able to read and interpret medical terms and demonstrate knowledge about food service in the health care industry.

CUA 141 - Food Production for Special Operations 3 Hours: 1T, 4L
This course covers menu planning principles, food preparation, food procurement, and food management skills needed to provide appealing and profitable food service in special operations. Topics include fast food cookery, convenience-store food service, supermarkets, delicatessens, and take-out venues. Upon completion, the student will be able to plan, organize, and prepare food service items for special operations.

CUA 142 - Specialty Breads 3 Hours: 2T, 1L
Prerequisite: CUA 125
This course will allow the student to have a complete analysis of the different types of flour and leavening agents as well as of the old, original method of making bread with naturally developed yeast present in pieces of previously fermented dough. The student will gain a full understanding of the basic process of making bread: water, kneading, fermentation, temperature, and proofing. The student will also explore the art of fantasy breads, appliques, presentation assemblages, and decorative breads. The student will develop competencies in stockroom, scullry, and supervision.

CUA 165 - Cake Decorating and Design 3 Hours: 2T, 1L
This course focuses on preparing cakes, tortes, individual Viennese cakes, and piping skills. Emphasis is placed on piping different mediums such as chocolate, buttercream, and royal icing, as well as assembling cakes with different batters or dough such as genoise, Japonaise, Bavarian, mousse, and marzipan. Upon completion the student should be able to plan, execute, and evaluate whole cakes, dessert platters, and a showpiece.

CUA 181 - Special Topics in Culinary Arts 3 Hours: 4L
This course provides specialized instruction in various areas related to the culinary arts industry. Emphasis is placed on meeting the student’s needs. This course may be repeated for credit.

CUA 182 - Special Topics in Culinary Arts 3 Hours: 6L
This course provides specialized instruction in various areas related to the culinary arts industry. Emphasis is placed on meeting the student’s needs. This course may be repeated for credit.

CUA 183 - Culinary Art Sculpture 3 Hours: 1T, 4L
This course includes the notion of fantasies that accompany the sculpturing motion with food. Work on centerpieces for all occasions will be included. The student will be exposed to a variety of three-dimensional edible mediums from walking cakes to salt dough.

CUA 201 - Meat Preparation and Processing 3 Hours: 1T, 4L
This course focuses on meat preparation and processing. Students will be responsible for the preparing of meats including beef, pork, poultry, fish, and seafood for final preparations in other stations of the kitchens. Upon completion, the student should be able to demonstrate an understanding of the principles in meat preparation and processing.

CUA 202 - Aromatic and Flavoring Combinations 3 Hours: 1T, 4L
This course focuses on the difference between spices and herbs. The student will learn the categories of herbs and spices enabling them to create the finest dishes. The student should learn the world-renowned spice blends and dry seasonings rubs. A strong emphasis will be placed on the variety of chili peppers.

CUA 203 - Stocks and Sauces 3 Hours: 1T, 4L
This course challenges the student to the greatest tests of a chef’s skill. Whether classic or contemporary, good sauces demand the highest technical expertise. The student should learn why or why not a particular sauce will go with a particular dish. The student will focus on brown and white stocks, consommes, fumets and essences, glazes, and roux. The student should further develop mother sauces and compound sauces.
CUA 204 - Foundations of Baking  3 Hours: 1T, 4L
This course covers basic ingredients, weights and measures, baking terminology, and formula calculations. Topics include yeast-raised products, quick breads, pastry dough, various cakes and cookies, and appropriate filling and finishing techniques. Upon completion, the student should be able to prepare and evaluate baked products.

CUA 205 - Introduction to Garde Manger  3 Hours: 1T, 4L
**Prerequisite:** CUA 125
This course is designed to develop skills in the art of garde manger. Topics include pates, terrines, galantines, ice and tallow carving, chaud-froid/aspic work, charcuterie, smoking, canapés, hors d’oeuvres, and related food items. Upon completion, the student should be able to design, set up, and evaluate a catering function to include a classical cold buffet with appropriate showpieces.

CUA 206 - Advanced Garde Manger  3 Hours: 1T, 1L
**Prerequisite:** CUA 205
This course is a continuation of skill development in the art of garde manger. Major topics to be covered include preparation of gourmet foods, application of cold food fabrications and display, sausage making, ice carving, and decorative carving to produce buffets. Upon completion, the student should be able to lay out a basic cold food display and exhibit an understanding of the cold kitchen and its related terminology.

CUA 208 - Advanced Baking  3 Hours: 1T, 4L
**Prerequisite:** CUA 204
This course is a continuation of CUA 204. Topics include specialty breads, pastillage, marzipan, chocolate, pulled-sugar, confections, classic desserts, pastries, and cake decorating. Upon completion, the student should be able to demonstrate pastry preparation and plating, cake decorating, and show-piece production skills.

CUA 210 - Beverage Management  2 Hours: 2T
This is a survey course of basic alcoholic and non-alcoholic beverages as they relate to food service. Topics include wine and food appreciation and laws related to alcohol services. Upon completion, the student should be able to determine what beverages compliment various cuisines and particular tastes.

CUA 213 - Food Purchasing and Cost Control  3 Hours: 3T
Emphasis is placed on procurement, yield tests, inventory control, specification, planning, forecasting, market trends, terminology, cost controls, pricing, and food service ethics. Upon completion, the student should be able to apply effective purchasing techniques based on the end-use of the product.

CUA 214 - International Cuisine  3 Hours: 1T, 4L
**Prerequisite:** CUA 125
This course focuses on various cuisines from countries and regions throughout the world. Students will prepare complete menus reflective of the culture and goods of these countries and regions with emphasis on ingredients and authentic preparation methods. Upon completion, the student should be able to research and execute international menus.

CUA 215 - Regional Cuisines of The Americas  3 Hours: 1T, 4L
**Prerequisite:** CUA 125
This course provides a brief history of the ancient American foods enhancing the world’s cuisines. Emphasis is placed on how these foods influenced today’s American cuisine. Upon completion, the student should be able to research and execute regional American cuisines.

CUA 216 - Plated Dessert Design  3 Hours: 2T, 1L
**Prerequisite:** CUA 125
This course focuses on plated dessert designs. Emphasis will be placed on complex presentations with two or more main items using decorative garnishes. Upon completion, students should be able to plate and serve attractive presentations of desserts with appropriate sauces and garnishes.

CUA 220 - Introduction to Patisserie  3 Hours: 1T, 4L
This is an introductory course to patisserie. Emphasis is placed on individual desserts, blown sugars, pulled sugar, pastillage gum paste, and nougat. Upon completion, the student should be able to plan, execute, and evaluate dessert platters, individual plated desserts, and show pieces.
CUA 251 - Menu Design 3 Hours: 3T
This course introduces menu design. Topics include development of standardized recipes, layout, nutritional concerns, product utilization, demographics, and customer needs. Upon completion, the student will be able to write, lay out, and produce effective menus for a variety of hospitality settings.

CUA 260 - Internship for Culinary Apprentice 3 Hours: 1L
Prerequisite: CUA Majors
This course is designed to give students practical, on-the-job experiences in all phases of food service operations under the supervision of a qualified chef and coordinated with the College instructor. This course may be repeated for credit.

CUA 262 - Restaurant Management and Supervision 3 Hours: 3T
This course introduces restaurant and food service information systems. Topics include planning, cost controls, forecasting, inventory control, recipe control, production control, and nutritional analysis. Upon completion, students should be able to demonstrate competence in utilizing contemporary information application systems in a restaurant setting.

CUA 271 - Management of Food and Beverage Service 3 Hours: 2T
This course covers the practical skills and knowledge for effective food and beverage service in a variety of settings. Topics include reservations, greeting and service of guests, styles of service, handling of complaints, and sales and merchandising. Upon completion, the student will be able to demonstrate competence in human relations and technical skills required in the service of foods and beverages.

DDT - Drafting

DDT 104 - Basic Computer-Aided Drafting 3 Hours: 1T, 4L
This course provides an introduction to basic Computer-Aided Drafting and Design (CADD) functions and techniques using “hands-on” applications. Topics include terminology, hardware, basic CADD and operating system functions, file manipulation, and basic CADD software applications in producing softcopy and hardcopy.

DDT 111 - Fundamentals of Drafting and Design Technology 3 Hours: 1T, 4L
This course serves as an introduction to the field of drafting and design and provides a foundation for the entire curriculum. Topics include safety, lettering, tools and equipment, geometric constructions, and orthographic sketching. Upon completion, the student should develop and use safe work habits, identify and properly use common drafting tools and equipment, construct geometric figures, and sketch basic orthographic views of objects.

DDT 124 - Basic Technical Drawing 3 Hours: 1T, 4L
This course covers sections, auxiliary views, and basic space geometry. Emphasis will be placed on the theory as well as the mechanics of applying sections, basic dimensioning, auxiliary views, and basic space geometry. Upon completion, the student should have an understanding of orthographic projection and be able to identify orthographic planes, produce orthographic views of objects, apply various sectioning techniques and methods, and reproduce drawings.

DDT 127 - Intermediate Computer-Aided Drafting and Design 3 Hours: 1T, 4L
Prerequisite: DDT 104
This course offers intermediate-level concepts and applications of CADD. Emphasis will be placed on intermediate-level features, commands, and applications of CADD software.

DDT 128 - Intermediate Technical Drawing 3 Hours: 1T, 4L
Prerequisite: DDT 104, DDT 111 and DDT 124
This course is designed to develop a strong foundation in common drafting and design practices and procedures. Topics include dimensioning concepts and pictorial drawings, auxiliary view, basic space geometry, and pictorial drawings. Upon completion, the student should be able to project and develop auxiliary views, as well as develop axonometric, oblique, and perspective drawings.

DDT 132 - Architectural Drafting 3 Hours: 1T, 4L
Prerequisite: DDT 104, DDT 111 and DDT 124
This course in architectural design and drafting introduces basic terminology, concepts, and principles of architectural design and drawing. Topics include design considerations, lettering, terminology, site plans, and construction drawings. Upon completion, the student should be able to draw, dimension, and specify basic residential architectural construction drawings.
DDT 133 - Basic Surveying  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course covers the use of surveying instruments, mathematical calculations, and the theory of land surveying. Topics include USGS benchmarks, measurement of horizontal and vertical angles and distances, terms, recording, and field note interpretation. Upon completion, the student should be able to recognize benchmarks as well as measure, specify, and record field notes.

DDT 134 - Descriptive Geometry  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course is designed to teach the fundamental concepts of descriptive geometry through an emphasis on logical reasoning, visualization, and practical applications. Topics include orthographic projection, points and lines in space, auxiliary views, plane representation, intersecting and non-intersecting lines, piercing and intersecting planes, plane development, and calculations. Upon completion, the student should be able to project and intersect points, lines, and planes with their relationships in space, as well as develop surfaces of an object for fabrication purposes.

DDT 144 – Basic 3D Modeling  
**Prerequisite:** DDT 127  
This course is an introduction to 3D solid techniques utilizing feature-based, constraint-based parametric design. This course encourages the student to visualize parts in the 3D world and have a “design intent” plan for each part they will design. Upon completion of the course, students should be able to create basic 3D models and 2D working drawings.

DDT 150 - Theory of Residential Drawing and Design  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course provides the theory of residential drawing and design. Topics include architectural styles, house design, site and space planning, climate, drawing requirements, construction materials and process, terminology, and specific types of drawings required to complete a full set of construction documents. Introductory, intermediate, and advanced topics are covered. Emphasis is placed on an understanding of the issues.

DDT 213 - Civil Drafting, Plat Maps  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course introduces the drafting practices, symbols, conventions, and standards utilized in civil engineering contract documents. Topics include site planning, land surveying, topographic surveys, as well as civil terminology. Upon completion, the student should be able to draw accurate plat maps giving legal descriptions of land parcels, draw simple site plans, and identify and use proper symbols and conventions on civil engineering drawings.

DDT 214 - Pipe Drafting  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course covers the theory and practical application needed to understand piping fundamentals used in refineries and petrochemical plants. Topics include process and mechanical flow diagrams, plant equipment, isometric drawings, instrumentation symbols, pipe symbols, flanges, fittings, and applications of basic math and trigonometry. Upon completion, the student should be able to demonstrate pipe drafting techniques and fundamentals in order to prepare working drawings used in refineries and the petrochemical industrial environment.

DDT 220 - Advance Technical Drawing  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course covers the methods of providing size description and manufacturing information for production drawings. Emphasis will be placed on accepted dimensioning and tolerancing practices including geometric dimensioning and tolerancing for both the customary English system and the ISO system. Upon completion, students should be able to apply dimensions, tolerances, and notes to drawings to acceptable standards, including geometric dimensioning and tolerancing, and to produce drawings using and specifying common threads and various fasteners, including welding methods.

DDT 225 - Structural Steel Drafting  
**Prerequisite:** DDT 104, DDT 111 and DDT 124  
This course covers the theory and practical applications necessary to understand the basic design and terminology of structural steel components used in light commercial buildings. Emphasis is placed on structural steel drafting techniques, bolted and welded connections, framing plans, sections, fabrication and connection details, and bills of material. Upon completion, the student should be able to produce engineering and shop drawings incorporating standard shapes, sizes, and details using the A.I.S.C. Manual and incorporating safety practices.
DDT 233 - Three Dimensional Modeling
Prerequisite: DDT 144
This course provides instruction in 3-D design modeling utilizing the 3-D capabilities of CAD software. Emphasis is placed on 3-D wire-frame, surface and solids modeling along with the development of 2-D detail drawings from 3-D models. Upon completion, the student should be able to generate 3-D surface and solid models as well as 2-D orthographic production drawings from created solid models.

DDT 235 – Specialized CAD
Prerequisite: DDT 144 and DDT 233
This course allows the student to plan, execute, and present results of individual projects in specialized CAD topics. Emphasis is placed on enhancing skill attainment in specialized CAD skill sets. The student will be able to demonstrate and apply competencies identified by the instructor.

DDT 238 - Special Topics in Computer Aided Drafting (CAD)
Prerequisite: Instructor’s Permission
This course in special CAD and multimedia topics covers special capabilities possible with CAD software, especially in conjunction with other graphical software, such as virtual “walk-throughs” or multimedia presentations. Topics include, but are not limited to, combining CAD software, imaging editing software, authoring software, and 3-D software into one harmonious relationship to produce multimedia presentations. Upon completion, the student should be aware of and understand how to utilize several software packages to produce multimedia presentations.

DDT 239 - Independent Studies
Prerequisite: Instructor’s Permission
This course provides practical application of prior-attained skills and experiences as selected by the instructor for the individual student. Emphasis is placed on applying knowledge from prior courses toward the solution of individual drafting and design problems. With completion of this course, the student will demonstrate the application of previously attained skills and knowledge in the solution of typical drafting application and problems.

DDT 271 – Drafting Internship
Prerequisite: Instructor’s Permission
This course allows credit for substantial on-the-job experience within the field of drafting and design technology.

DEM - Diesel Mechanics
DEM 104 - Basic Engines
Prerequisite: None
This course is designed to give the student knowledge of the diesel engine components and auxiliary systems, the proper way to maintain them, and the proper procedures for testing and rebuilding components. Emphasis is placed on safety, theory of operation, inspection, and measuring and rebuilding diesel engines according to factory specifications. Upon completion, the student should be able to measure, diagnose problems, and repair diesel engines. This is a CORE course.

DEM 105 - Preventive Auxiliary Services
Prerequisite: None
This course provides instruction on how to plan, develop, and install equipment surveillance and reliability strategies. Descriptions of various auxiliary services techniques for specialized preventive programs are discussed, and computerized parts and equipment inventories and fleet management systems software are emphasized. Upon completion, the student should be able to set up and follow a preventive auxiliary services schedule as directed by manufacturers.

DEM 110 - Diesel-Powered Auxiliary Equipment
Prerequisite: None
This course provides instruction in diesel-powered auxiliary equipment. Topics include the application of diesel engines to generators, pumps, refrigeration, drilling, boring machines, and marine power units. Upon completion, the student should be able to test, troubleshoot, diagnose, and repair diesel-powered auxiliary equipment.

DEM 111 - Equipment Safety/Mechanical Fundamentals
Prerequisite: None
This course provides instruction in the fundamentals of vehicle operation and safety when basic service work is to be performed in the shop. Topics include service manuals, mechanical fundamentals, preventive auxiliary services, and component adjustment. Upon completion, students should be able to demonstrate knowledge of the fundamentals of vehicle operation and safety in the shop.

DEM 114 - Fluid Power Components
Prerequisite: None
This course is designed to provide the fundamental knowledge of hydraulic and pneumatic components currently in use on mobile as well as stationary equipment. Instruction is provided in the identification and repair of various pumps, motor, valves, heat exchangers, and cylinders. Upon completion, the student should be able to diagnose, service, and repair hydraulic and pneumatic components.
DEM 116 - Track Vehicle Drive Trains  
This course provides instruction in track vehicles and drive trains. Emphasis is placed on track frame roller, rail, steering clutch, axle, and driveline building and repair. Upon completion, the student should be able to identify, research specifications, repair, and adjust drive train components.

DEM 119 - Bearings and Lubricants  
This course focuses on roller, ball, and shell bearing design and application. Topics include vehicle and industrial bearings and lubrication requirements. Upon completion, the student should be able to diagnose related problems and service and replace bearings.

DEM 122 - Heavy Vehicle Brakes  
This course covers the theory and repair of braking systems used in medium and heavy duty vehicles. Topics include air, hydraulic, and ABS system diagnosis and repair. Upon completion, the student should be able to troubleshoot, adjust, and repair braking systems on medium and heavy duty vehicles. This is a CORE course.

DEM 123 - Pneumatics and Hydraulics  
This course provides instruction in the identification and repair of components found in hydraulic systems. Topics include schematics, circuits, and symbols used in fluid power transmission and the troubleshooting of components in these systems. Upon completion, the student should be able to diagnose, adjust, and repair hydraulic system components.

DEM 124 - Electronic Engine Systems  
This course introduces the principles of electronically-controlled diesel engines. Emphasis is placed on testing and adjusting diesel engines in accordance with manufacturers’ specifications. Upon completion, the student should be able to diagnose, test, and calibrate electronically-controlled diesel engines.

DEM 125 - Heavy Vehicle Drive Trains  
This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-offs, slider idler clutches, friction clutches, mechanical transmission power components, and hydraulics. Upon completion, the student should be able to diagnose, inspect, and repair mechanical transmissions. This is a CORE course.

DEM 126 - Advanced Engine Analysis  
This course provides instruction in the disassembly, inspection, and rebuilding of diesel and heavy-duty gas engines. Emphasis is placed on manufacturer standards and factory-recommended service tools and equipment. Upon completion, the student should be able to disassemble, inspect, and rebuild engines according to manufacturer specifications.

DEM 127 - Fuel Systems  
This course is designed to provide practice in troubleshooting, fault code diagnosis, information retrieval, calibration, repair, and replacement of fuel injectors, nozzles, and pumps. Emphasis is placed on test equipment, component functions, and theory. Upon completion, the student should be able to diagnose, service, and repair fuel systems and governors. This is a CORE course.

DEM 130 - Electrical/Electronic Fundamentals  
This course introduces the student to basic electrical / electronic concepts and fundamentals. It provides the principles of electricity, magnetism, and Ohm’s Law. Emphasis is placed on batteries; starting, charging, and lighting circuits, including series, parallel, and series-parallel circuits. Troubleshooting and repairing of wiring harnesses, starting motors, charging systems, and accessories are included along with the computerized monitoring of vehicle systems. Upon completion, students should be able to identify components, test systems, and repair minor electrical problems according to manufacturer literature. This is a CORE course.

DEM 134 – Computer-Controlled Engine and Power Train Systems  
This course introduces the student to the fundamentals of operation of computer-controlled engine and power train systems.

DEM 135 - Heavy Vehicle Steering and Suspension  
This course introduces the theory and principles of medium and heavy duty steering and suspension systems. Topics include wheel and tire problems, frame members, fifth wheel, bearings, and coupling systems. Upon completion, the student should be able to troubleshoot, adjust, and repair suspension and steering components on medium and heavy duty vehicles.
DEM 154 - Vehicle Auxiliary Services and Safe Operating Practices
This course provides instruction in basic entry level driving skills relating to the auxiliary services and safe operation of a commercial motor vehicle. Topics include preventive auxiliary services and safe vehicle operations. Upon completion, the student should have the skill and knowledge to safely operate a commercial motor vehicle.

DEM 158 - Pneumatics and Hydraulics II
This course provides instruction in the identification and repair of components found in hydraulic systems. Topics include schematics, circuits, and symbols used in fluid power transmission as well as the troubleshooting of components in these systems. Upon completion, the student should be able to diagnose, adjust, and repair hydraulic system components.

DEM 159 - Heavy Vehicle Drive Trains II
This course introduces the operating principles of mechanical medium and heavy duty truck transmissions. Topics include multiple counter shafts, power take-odds, slider idler clutches, friction clutches, mechanical transmission power components, and hydraulics. Upon completion, the student should be able to diagnose, inspect, and repair mechanical transmissions.

DEM 170 - Heavy Vehicle Air Brakes
This course covers the theory and repair of air braking systems used in medium and heavy duty vehicles. Topics include air and ABS system diagnosis and repair. Upon completion, the student should be able to troubleshoot, adjust, and repair air braking systems on medium and heavy duty vehicles.

DEM 180 - Special Projects in Commercial Vehicles
This course provides specialized instruction in various areas related to the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 181 - Special Topics in Diesel Mechanics
This course provides specialized instruction in various areas related to the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 182 - Special Topics in Diesel Mechanics
This course provides specialized instruction in various areas related to the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 183 - Special Topics in Power Train
This course provides specialized instruction in various areas related to the power train in the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 184 - Special Topics in Heavy Duty Brakes, Steering, and Suspension
This course provides specialized instruction in various areas related to heavy duty brakes, steering, and suspension systems in the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 185 - Special Topics in Hydraulics
This course provides specialized instruction in various areas related to hydraulic systems in the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 186 - Special Projects in Commercial Vehicles
This course provides specialized instruction in various areas related to the diesel mechanics industry. Emphasis is placed on meeting student need.

DEM 191 - Special Projects in Diesel Mechanics
This course provides information on current trends in diesel mechanics as they relate to employment responsibilities. Topics may vary by term to reflect relevant training needs by the industry.

DEM 192 - CO-OP Elective
This course allows the student to work parallel in a job closely related to the student’s major while attending college. The grade is based on the employer’s evaluation of the student’s productivity, an evaluation work report submitted by the student, and the student’s learning contract.
DEM 194 - CO-OP Elective 3 Hours: 6L
This course allows the student to work parallel in a job closely related to the student’s major while attending college. The grade is based on the employer’s evaluation of the student’s productivity, an evaluation work report submitted by the student, and the student’s learning contract.

DEM 195 - CO-OP Elective 3 Hours: 6L
This course allows the student to work parallel in a job closely related to the student’s major while attending college. The grade is based on the employer’s evaluation of the student’s productivity, an evaluation work report submitted by the student, and the student’s learning contract.

DEM 196 - CO-OP Elective 1 Hours: 5i
This course allows the student to work parallel in a job closely related to the student’s major while attending college. The grade is based on the employer’s evaluation of the student’s productivity, an evaluation work report submitted by the student, and the student’s learning contract.

DEM 197 - CO-OP Elective 2 Hours: 10i
This course allows the student to work parallel in a job closely related to the student’s major while attending college. The grade is based on the employer’s evaluation of the student’s productivity, an evaluation work report submitted by the student, and the student’s learning contract.

DNC - Dance

DNC 110 - Introduction to Dance Styles 2 Hours
This course is an introduction to dance styles.

DNC 111 - Elementary Modern Dance 2-3 Hours
This is a studio course in modern dance technique at the elementary level.

DNC 121 - Elementary Ballet 2 Hours
This course is a studio course in classical ballet at the elementary level.

DNC 140 - Fitness Dance I 1-2 Hours
This course uses dance activity to increase a student's level of physical fitness. Flexibility exercises and body toning/sculpting exercises, specially designed to develop the dancer's body, will be used in class.

DNC 143 - Ballet I 3 Hours
**Prerequisite:** Previous dance training is essential before taking this course.
This course offers intensive training in classical ballet for students intending to major in dance. Intermediate level technique is studied, emphasizing posture and placement. The student is evaluated on ability to perform the work to the required standard.

DNC 144 - Ballet II 3 Hours
**Prerequisite:** Previous dance training is essential before taking this course.
This course offers intensive training in classical ballet for students intending to major in dance. Intermediate level technique is studied, emphasizing posture and placement. The student is evaluated on ability to perform the work to the required standard.

DNC 160 - Dance Workshop I 1-2 Hours
This course provides practical experience in the production and performance of a dance presentation, including sound, lighting, choreography, rehearsal, costuming, and make-up.

DNC 161 - Dance Workshop II 1-2 Hours
**Prerequisite:** DNC 160
This course is a continuation of DNC 160.

DNC 211 - Intermediate Modern Dance 3 Hours
**Prerequisite:** DNC 111
This course is a studio course in modern dance technique at the intermediate level.

DNC 234 - Choreography I 1-3 Hours
Students are involved in individual and group choreographic projects in which musical and spatial elements are explored.
DNC 243 - Ballet III
Prerequisite: DNC 144 or permission of instructor
This course covers ballet technique at an advanced level, emphasizing performance quality, musicality, and classical style.

DNC 244 - Ballet IV
Prerequisite: DNC 144 or permission of instructor
This course covers ballet technique at an advanced level, emphasizing performance quality, musicality, and classical style.

DNC 267 - Jazz Dance I
This is the first of a six-course sequence providing the student a study of basic principles and techniques on jazz dance, including an introduction to the varied movement styles and rhythms of this dance form.

DNC 268 - Jazz Dance II
Prerequisite: DNC 267
This course is a continuation of DNC 267.

ECO - Economics
ECO 231 - Principles of Macroeconomics
Prerequisite: RDG 085 or higher placement
This course is an introduction to macroeconomic theory, analysis, and policy applications. Topics include the following: scarcity, supply and demand, national income analysis, major economic theories concerning monetary and fiscal policies as stabilization measures, the banking system, and other economic issues or problems including international trade.

ECO 232 - Principles of Microeconomics
Prerequisite: RDG 085 or higher placement
This course is an introduction of the microeconomic theory, analysis, and applications. Topics include scarcity, the theories of consumer behavior, production and cost, markets, output and resource pricing, and international aspects of microeconomics.

EGR - Engineering
EGR 101 - Engineering Foundations
Prerequisite: MTH 112 or higher
Co-Requisite: MTH 113 or higher
This course introduces the student to engineering as a profession, basic engineering skills, and the design process. The course includes components to develop teaming, as well as oral and written communication skills. It also provides an introduction to computer tools used by engineers (spreadsheet, word processing, presentation software, internet access).

EGR 125 - Modern Graphics for Engineers
Prerequisite: MTH 125 or higher
This course provides an introduction to manual and computer-assisted techniques of graphic communication employed by professional engineers. Topics include lettering; instrumental and computer-aided drafting; technical sketching; orthographic projection; and pictorial, sectional, and auxiliary views and dimensioning.

EGR 156 - Computer Methods for Engineers
Prerequisite: MTH 125 or higher
This course consists of engineering applications using the FORTRAN IV computer programming language.

ELO - eLearning
ELO 100 - eLearning Orientation
This course is designed to ensure the student is prepared for the online teaching/learning environment. Emphasis is placed on self-motivation, time management skills, individual learning styles, and technical skills needed in an online environment. This course is a prerequisite to all online classes; there is no charge for this course.

ELT - Electrical Technology
ELT 100 – Applied Electronic Computation
Co-Requisite: ELT 111 and ELT 112
This course is an applied mathematics and algebra course for students in electronics or similar programs. Topics include decimals, fractions, negative numbers, powers and roots, metric systems, logarithms, applied trigonometry, and algebra. Upon completion of this course, a student will be able to perform applied mathematics calculations needed in electronics.
ELT 110 - Wiring Methods  3 Hours: 1T, 4L  
**Prerequisite:** ELT 111 and ELT 112 or ILT 106 and ILT 107  
This course is a study of various tasks, wiring methods, materials, and associated NEC requirements needed to work in residential and commercial wiring courses.

ELT 111 - Concepts of Direct Current  5 Hours: 3T, 4L  
**Co-Requisite:** ELT 100  
This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety, terms and symbols, electrical theory, Ohm's law, power law, electrical measurement, DC electrical components, series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction.

ELT 112 - Concepts of Alternating Current  5 Hours: 3T, 4L  
**Prerequisite:** ELT 111 or ILT 106  
**Co-Requisite:** ELT 100  
This course provides a study of basic concepts and applications of alternating current (AC). Specific topics include, but are not limited to, an introduction to AC electrical theory, AC electrical measurements, and constructing and measuring various types of AC circuits. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators and the operation of various test equipment used to analyze and troubleshoot AC circuits.

ELT 114 - Residential Wiring Methods  3 Hours: 2T, 3L  
**Prerequisite:** ELT 111 and ELT 112 or ILT 106 and ILT 107  
This course is a study of residential wiring practices and methods, the NEC requirements, and residential blueprint interpretations. This is a CORE course.

ELT 115 - Residential Wiring Methods II  3 Hours: 2T, 3L  
**Prerequisite:** ELT 114  
This course is a study of residential wiring practices and methods, the NEC requirements, and residential blueprint interpretations. This is a CORE course.

ELT 117 - AC/DC Machines  3 Hours: 1T, 4L  
**Prerequisite:** ELT 111 and ELT 112  
This course covers the theory and operation of DC motors and single and three phase AC motors; labs will reinforce this knowledge. Emphasis is placed on the various types of single and three phase motors, wiring diagrams, starting devices, and practical application in the lab. This is a CORE course.

ELT 118 - Commercial/Industrial Wiring I  3 Hours: 1T, 4L  
**Prerequisite:** ELT 110  
This course focuses on principles and applications of commercial and industrial wiring. Topics include electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles.

ELT 122 - Advanced AC/DC Machines  3 Hours: 2T, 3L  
**Prerequisite:** ELT 117 or ILT 167  
This course focuses on single and three-phase motors and also introduces students to DC motors. Emphasis is placed on field wiring, various types of AC and DC motors, troubleshooting procedures, and utilization of test equipment. Upon completion, the student should be able to explain, wire, troubleshoot, and test all types of AC and DC electric motors.

ELT 181 - Special Topics in Electrical Technology  3 Hours: 0-3T, 0-6L  
This course provides specialized instruction in various areas related to electrical technology. Emphasis is placed on meeting students’ needs.

ELT 194 - Practicum/Intern/CO-OP  3 Hours: 6L  
**Prerequisite:** Complete at least fifteen (15) hours in electrical classes.  
This course provides practical experience in the electrical craft. Work is done as an electrician’s helper or at a higher working level on advanced special projects or advanced research/study in a directed area of the field. Emphasis is placed on gaining hands-on experience with tools of the trade as well as a better understanding of NEC directives while studying in the classroom one hour per week. Upon completion, the student should possess a higher state of proficiency in the basic skills and a better knowledge of testing for the Electrical Journeyman’s Block Test.
ELT 200 - Special Projects 3 Hours: 6L
Prerequisite: Complete at least fifteen (15) hours in electrical classes.
This course provides additional time and/or practice for the electrical technology major on a project which will enhance the student's abilities to perform required tasks. Emphasis is placed on the upgrading of student skill and ability. Upon completion, the student should be able to perform at a higher level within their chosen field of study.

ELT 206 - OSHA Safety Standards 3 Hours: 3T
This course provides the student with the knowledge of OSHA safety standards as required by this organization and as it relates to the job site. Emphasis is placed on overall safety practices, construction site safety practices, and safety procedures required by federal and state laws. Upon completion, the student should be able to understand the requirements of OSHA as it relates to general and specific construction sites.

ELT 209 - Motor Controls I 3 Hours: 1T, 4L
Prerequisite: ELT 117
This course covers the use of motor control symbols, magnetic motor starters, running overload protection, push button stations, sizing of magnetic motor starters and overload protection, and complex ladder diagrams of motor control circuits. Topics include sizing magnetic starters and overload protection, the use of push-button stations, ladder diagrams, and magnetic motor starters in control of electric motors, wye-delta starting, part start winding, resistor starting, and electric starting devices. Upon completion, students should be able to understand the operation of motor starters and overload protection, interpret ladder diagrams using push-button stations, and understand complex motor control diagrams. This is a CORE course.

ELT 212 - Motor Control II 3 Hours: 2T, 3L
Prerequisite: ELT 209 or ILT 197
This course covers complex ladder diagrams of motor control circuits and the uses of different motor starting techniques. Topics include wye-delta starting, part start winding, resistor starting, and electronic starting devices. Upon completion, the student should be able to understand and interpret the more complex motor control diagrams and understand the different starting techniques of electrical motors.

ELT 217 – Transformers 3 Hours: 2T, 3L
Prerequisite: ELT 117
This course is designed to train the student in the theory of operation, various connections, troubleshooting, and repair of single phase as well as three phase transformers. KVA load calculations and applications will also be covered in the class. Upon completion, the student should be able to perform calculations relating to transformers, make proper Delta and WYE connections, and understand the basic polarity and voltage test for each application.

ELT 221 - Electronics for Electricians 3 Hours: 2T, 1L
Prerequisite: ELT 111 and ELT 112
This course introduces the basic principles of solid state electronic equipment as found in many electrical and motor control circuits. Emphasis is placed on fundamental concepts of diodes, transistors, FETs and MOSFETs as they are used in electrical control circuits. Upon completion, the student should be able to explain the basic operation of these solid state components and perform basic troubleshooting tasks.

ELT 224 - Security and Alarm Systems 3 Hours: 2T, 1L
This course introduces the basic operation and installation of home and business security and fire alarm systems as well as low voltage (under 30v) systems such as lighting, door chimes, and intercom systems. Emphasis is placed on installation of home and business security and fire alarm systems. Upon completion, students should be able to install residential and commercial security systems in accordance with code and directives.

ELT 230 - Programmable Controls 6 Hours: 4T, 4L
This state-of-the art course includes the fundamental principles of programmable logic controls (PLCs) including hardware, programming, and program design. Emphasis is placed on hardwiring associated with PLC, different options available with most PLCs, basic ladder logic programming, developing working programs, timers, counters, different special functions, and designing programs from existing hardwired systems. Upon completion, students will develop programs, load programs into PLCs, and troubleshoot systems.

ELT 231 - Programmable Controls I 3 Hours: 2T, 3L
Prerequisite: ELT 209 or ILT 194
This state-of-the art course includes the fundamental principles of programmable logic controls (PLCs) including hardware and programming. Emphasis is placed on, but not limited to, the following: hardwiring associated with the PLC, different options
available with most PLCs, and basic ladder logic programming. Upon completion, the student must demonstrate ability by
developing programs, loading programs into real world PLCs, and troubleshooting the system.

**ELT 232 - Programmable Controls II**

**Prerequisite:** ELT 231 or ILT 194

This state-of-the-art course includes the principals of PLCs, including hardware, programming, and program design. Emphasis is placed on, but not limited to, the following: developing working programs, timers, counters, and special functions, as well as designing programs from existing hardwired systems. Upon completion, the student must demonstrate ability by developing programs, loading programs into real world PLCs, and troubleshooting the system.

**ELT 233 - Applied Programmable Controls**

**Prerequisite:** ELT 232

This state-of-the-art course covers the more advanced topics of PLCs. Emphasis is placed on, but not limited to the following: high-speed devices, analog programming, designing complete working systems, start-up and troubleshooting techniques, and special projects. Upon completion, the student must demonstrate ability by developing programs, loading programs into PLCs, and troubleshooting the system.

**ELT 241 - National Electric Code**

3 Hours: 2T, 3L

This course introduces the students to the National Electric Code and text and teaches the student how to find needed information within this manual. Emphasis is placed on locating and interpreting needed information within the NEC code manual. Upon completion, the student should be able to locate the NEC code requirements for a specific electrical installation.

**ELT 242 - Journeyman-Master Prep Exam**

**Prerequisite:** Final semester of AAS or Certificate program or currently practicing in electrical discipline

This course is designed to help prepare a student to take either the Journeyman or Master Certification Exam. Emphasis is placed on review of electrical concepts and/or principles, practice tests, and test-taking procedures. Upon completion, the student should be able to pass the Journeyman/Masters Certifying Exam.

**ELT 243 - Electrical Cost Estimating**

**Prerequisite:** ELT 110 and ELT 114

This course provides an in-depth study of calculating wiring materials required and labor needed by man hours to complete a job. Emphasis is placed on documenting the scope of work required using various take-off sheets and the correct means by which to arrive at total job costs. Upon completion, the student should be able to perform actual calculations of sample jobs including overhead and operating costs.

**ELT 244 - Conduit Bending and Installation**

3 Hours: 2T, 3L

This course provides the student the knowledge to properly bend electrical metallic tubing, rigid galvanized and intermediate metal conduit, and PVC conduit. Emphasis is placed on the theory and practical application of conduit bending methods. Upon completion, the student will measure, layout, and successfully bend conduit using hand type, mechanical, and hydraulic benders.
ENR 094 – Integrated Reading and Writing  
This course combines traditionally separate reading and writing courses into a single, integrated course. Students will develop skills in both critical reading (organizing, analyzing, and retaining concepts) and writing (developing work appropriate to the audience, purpose, situation, and length of the assignment). By integrating the two skill sets, students will demonstrate their comprehension of reading through their writing.

ENG 101 - English Composition I  
Prerequisite: RDG 085 and ENG 093 or higher placement  
English Composition I provides instruction and practice in the writing of at least six (6) extended compositions and a research paper. The development of analytical and critical reading skills as well as basic reference and documentation skills in the composition process are also emphasized. English Composition I includes instruction and practice in library usage.

ENG 102 - English Composition II  
Prerequisite: A letter grade of C or higher in ENG 101  
English Composition II provides instruction and practice in the writing of six (6) formal, analytical essays, at least one of which is a research project using outside sources and/or references effectively and legally. Additionally, English Composition II provides instruction in the development of analytical and critical reading skills in the composition process. English Composition II includes instruction and practice in library usage.

ENG 246 - Creative Writing I  
Prerequisite: A letter grade of C or higher in ENG 102  
This course provides instruction and practice in the writing of critical analysis of imaginative forms of literature. Emphasis is placed on originality in the creative writing process, and this course may include instruction on publishing. The student will compose a significant body of imaginative literature, which may be read by or to the class.

ENG 251 - American Literature I  
Prerequisite: A letter grade of C or higher in ENG 102  
This course is a survey of American literature from its inception to the middle of the nineteenth century. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces shaping these works and reflected in them. Upon completion and in written compositions, the student should be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research.

ENG 252 - American Literature II  
Prerequisite: A letter grade of C or higher in ENG 102  
This course is a survey of American literature from the middle of the nineteenth century to the present. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces shaping these works and reflected in them. Upon completion, the student should be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research.

ENG 261 - English Literature I  
Prerequisite: A letter grade of C or higher in ENG 102  
This course is a survey of English literature from the Anglo-Saxon period to the Romantic Age. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces shaping these works and reflected in them. Upon completion and in written compositions, the student should be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research.

ENG 262 - English Literature II  
Prerequisite: A letter grade of C or higher in ENG 102  
This course is a survey of English literature from the Romantic Age to the present. Emphasis is placed on representative works and writers of this period and on the literary, cultural, historical, and philosophical forces shaping these works and reflected in them. Upon completion and in written compositions, the student should be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research.

ENG 271 - World Literature I  
Prerequisite: A letter grade of C or higher in ENG 102  
This course is a study of selected literary masterpieces from Homer to the Renaissance. Emphasis is placed on major representative works and writers of this period, and on the literary, cultural, historical, and philosophical forces shaping these works and reflected in them. Upon completion and in written compositions, the student should be able to interpret the aesthetic
and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research.

**ENG 272 - World Literature II**  
**Prerequisite:** A letter grade of C or higher in ENG 102  
This course is a study of selected literary masterpieces from the Renaissance to the present. Emphasis is placed on major representative works and writers of this period and on the literary, cultural, historical, and philosophical forces shaping these works and reflected in them. Upon completion and in written compositions, the student should be able to interpret the aesthetic and thematic aspects of these works, relate the works to their historical and literary contexts, and understand relevant criticism and research.

**GEO - Geography**

**GEO 100 - World Regional Geography**  
**Prerequisite:** RDG 085 and ENG 092 or higher placement  
This course surveys various countries and major regions of the world with respect to location and landscape, world importance, political status, population, type of economy, and external and internal organizational problems and potentials.

**GEO 101 - Principles of Physical Geography I**  
**Prerequisite:** RDG 085 and ENG 092 or higher placement  
This is the first in a two part sequence including topics such as weather and climate relative to the earth and relationships between the earth and sun. Laboratory is required.

**GEO 102 - Principles of Physical Geography II**  
**Prerequisite:** RDG 085 and ENG 092 or higher placement and GEO 101  
This is the second in a two part sequence including topics such as landforms, landscapes, soil, and vegetation of the earth. Laboratory is required.

**GEO 200 - Geography of North America**  
**Prerequisite:** GEO 100  
This course is a survey of the geography of the United States and Canada with special emphasis on land usage, mineral resources, industrial development, and social and economic adaptation of man and the natural environment.

**HEC - Home Economics**

**HEC 140 - Principles of Nutrition**  
**Prerequisite:** RDG 085 or higher placement  
This course introduces students to the principles of nutrition and the roles and functions of nutrients in man’s food. Basic information concerning food selection and nutrition as a factor in health, ecology, and economy is included. Implications of nutrition for children may be stressed.

**HED - Health Education**

**HED 199 - Ecological Approach to Health and Fitness**  
**Prerequisite:** RDG 085 or higher placement  
This course examines a myriad of factors influencing health and fitness behavior. Intrapersonal, interpersonal, institutional, community, and public policy factors are examined.

**HED 221 - Personal Health**  
**Prerequisite:** RDG 085 or higher placement  
This course introduces principles and practices of personal and family health; it includes human reproduction, growth and development, psychological dimensions of health, human sexuality, nutrition and fitness, aging, and death and dying.

**HED 231 - First Aid**  
This course provides instruction to the immediate, temporary care which should be given to victims of accidents and sudden illness. It also includes standard and advanced requirements of the American Red Cross and/or the American Heart Association. CPR training is also included.

**HED 232 - Care and Prevention of Athletic Injuries**  
This course provides a study of specific athletic injuries, their treatment, and preventive measures.
**HED 277 - CPR Recertification**  
**Prerequisite:** Prior certification in CPR  
In this course, instruction and review of updated information concerning cardiopulmonary resuscitation (CPR) is presented. The student must satisfactorily execute skills needed to meet requirements for recertification in Basic Cardiac Life Support (BCLS) as required by the American Heart Association.

**HED 299 - Special Topics: Stress Management**  
**Prerequisite:** RDG 085 or higher placement  
This course will permit the student to focus on, examine, and address current specific issues and topics in the general area of health and disease. Stress management techniques will be described and evaluated, and the relationship between stress and disease will be discussed.

**HIS - History**

<table>
<thead>
<tr>
<th>Course Offered</th>
<th>Hours</th>
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<tbody>
<tr>
<td>HIS 101 - Western Civilization I</td>
<td>3</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 093 or higher placement</td>
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<tr>
<td>This course is a survey of social, intellectual, economic, and political developments which have molded the modern western world. This course covers the ancient and medieval periods and concludes in the era of the Renaissance and Reformation.</td>
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| HIS 102 - Western Civilization II                  | 3     |
| **Prerequisite:** RDG 085 and ENG 093 or higher placement |       |
| This course is a continuation of HIS 101. It surveys development of the modern western world from the era of the Renaissance and Reformation to the present. |       |

| HIS 201 - United States History I                  | 3     |
| **Prerequisite:** RDG 085 and ENG 093 or higher placement |       |
| This course surveys United States history during the Colonial, Revolutionary, Early National, and Antebellum periods. It concludes with the Civil War and Reconstruction. |       |

| HIS 202 - United States History II                 | 3     |
| **Prerequisite:** RDG 085 and ENG 093 or higher placement |       |
| This course is a continuation of HIS 201. It surveys United States history from the Reconstruction Era to the present. |       |

| HIS 260 - Alabama History                          | 3     |
| This course surveys the development of the state of Alabama from prehistoric times to the present. The course presents material on the discovery and exploration of Alabama, colonization, the territorial period, antebellum Alabama, Reconstruction, and modern history. |       |

**HIT - Health Information Technologies**

<table>
<thead>
<tr>
<th>Course Offered</th>
<th>Hours</th>
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<tbody>
<tr>
<td>HIT 110 – Medical Terminology</td>
<td>3</td>
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<tr>
<td>This course is an introduction to the language of medicine. Course emphasis is on terminology related to disease and treatment in correlation with anatomy and physiology of all anatomical body systems. Student competencies include word construction, definition, spelling, pronunciation, and use of correct abbreviations for numerous medical terms. This is a CORE course.</td>
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</table>

| HIT 111 – Diagnostics and Pharmacology            | 2     |
| **Prerequisite:** Acceptance into HIT Program    |       |
| **Co-Requisite:** HIT 115, HIT 130, HIT 131, and HIT 151 |       |
| This course is a study of drug classifications and diagnostic procedures. Instruction includes information on common laboratory findings and the significance of abnormal findings in disease processes. At the conclusion of the course, the student should be able to apply knowledge regarding medications and tests used in treatment and diagnosis of abnormal human conditions. |       |

| HIT 113 - Anatomy, Physiology, and Medical Terminology | 5     |
| This course is an introduction to the structure and function of anatomical body systems and the language of medicine. Upon completion, students should be able to demonstrate a basic understanding of human anatomy and physiology and be able to spell, define, pronounce and correctly use a number of medical terms and abbreviations. |       |

| HIT 115 – Pathophysiology and Pharmacology for HIT | 4     |
| **Prerequisite:** Acceptance into HIT Program     |       |
| **Co-Requisite:** HIT 111, HIT 130, HIT 131, and HIT 151 |       |
This course is a detailed study of common pathological conditions and the drugs of choice used in their treatment. Course focus is on description of conditions and diseases of the organ systems including etiology, signs and symptoms, methods of diagnosis, and treatment. Expected student outcomes include the ability to analyze signs and symptoms in identifying disease entities and the ability to describe appropriate diagnostic and treatment modalities.

**HIT 130 – HIT Classification and Reimbursement**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 111, HIT 115, HIT 131, and HIT 151  
This course includes study of the uses of coded data in reimbursement and payment systems appropriate to all health care settings. Course instruction focuses on techniques of coding, elements of prospective payment systems, billing and insurance procedures, third party payers, explanation of benefits, managed care/capitation, and chargemaster description. Student competencies include demonstration of reimbursement and payment system principles, coding skills, and billing applications (manual and/or computer-assisted).

**HIT 131 – Classification Skills Laboratory**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 111, HIT 115, HIT 130, and HIT 151  
This course allows the student to develop basic skills in classification and reimbursement methodologies. Emphasis is on coding techniques and billing procedures. Student competency is demonstrated by application of skills acquired in the theory class.

**HIT 134 – HIT Legal and Ethical Issues**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 153, HIT 158, HIT 160, HIT 221, HIT 222, HIT 230, and HIT 231  
This course is a review of the legal aspects applicable to health information. The course focuses on the health record as a legal document, legal principles, patient rights/advocacy issues, definition and application of professional ethics, privacy, release of information, and confidentiality of health information. Student outcomes include demonstration of the use of legal vocabulary and application of release of information guidelines. This is a CORE course.

**HIT 151 – Health Data Content and Structure**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 111, HIT 115, HIT 130, and HIT 131  
This course is an introduction to the health information technology (HIT) profession and its basic skill requirements. The course includes an introduction to the content, use and structure of health care data and data sets and how these components relate to primary and secondary record systems. Student outcomes include mastery of basic concepts and functions in HIT including storage and retrieval systems, documentation requirements, abstracting, quantitative and qualitative analysis, registries and indexes. This is a CORE course.

**HIT 152 – Skills Development Laboratory**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 111, HIT 115, HIT 130, and HIT 131  
This course allows the student to demonstrate basic competencies acquired in course work with laboratory experience. Emphasis is on development of basic HIT competencies. Student competency is demonstrated by application of basic skills covered in theory classes.

**HIT 153 – Health Care Delivery Systems**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 134, HIT 158, HIT 160, HIT 221, HIT 222, HIT 230, and HIT 231  
This course includes a review of health care delivery systems. Course focus is on information management practices of agencies providing health services in ambulatory care, home health care, hospice, long term care, mental health, and other alternate care systems. Student competency includes the ability to describe and contrast the structure of health services in relation to operational and accrediting agency standards, as well as the role of the health information practitioner in each of these settings.

**HIT 158 – Introduction to the Clinical Environment for HIT/MCC**  
*Prerequisite:* Acceptance into HIT Program  
*Co-Requisite:* HIT 134, HIT 153, HIT 160, HIT 221, HIT 222, HIT 230, and HIT  
This course is an introduction to the expectations and legal requirements of the clinical environment. Emphasis is placed on personal safety, personal integrity and accountability, and universal clinical expectations. Upon completion, the student should be able to demonstrate pre-clinical competency in clinically relevant topics, such as HIPAA regulations, universal precautions, and safety regulations.
HIT 160 – Professional Practices Experience
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 134, HIT 153, HIT 158, HIT 221, HIT 222, HIT 230, and HIT 231
This course allows the student to demonstrate basic competencies acquired in previous course work with on-site, online, and/or on-campus simulations. This course requires student practice in health information technology in a health care facility or simulated online or on campus experience. Student competency is demonstrated by application of basic skills covered in theory and laboratory classes. This is a CORE course.

HIT 221 – HIT Computer Applications
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 230 and HIT 231
This course is a survey of computer usage in health care with emphasis on data security and integrity in health information systems. Course instruction focuses on concepts of computer technology related to health care and the tools and techniques for collecting, storing, retrieving, and transmission of health care data. Upon completion, students should be able to demonstrate knowledge of and competence in the use of various health information-specific software applications. This is a CORE course.

HIT 222 – HIT Computer Applications Laboratory
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 134, HIT 153, HIT 158, HIT 160, HIT 221, HIT 230, and HIT 231
This course is designed to provide the opportunity to apply HIT computer application skills in online or on-campus laboratory. Emphasis includes concentration in the use of computer technology in collecting, storing, retrieving, reporting, and displaying health care data. Upon completion, the student should be able to demonstrate specific computer skills in these areas.

HIT 230 - Medical Coding Systems I
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 221 and HIT 231
This course is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes description of classification and nomenclature system; coding diagnoses and/or procedure; sequencing code; analyzing actual medical records to identify data elements to be coded; and validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer-assisted). This is a CORE course.

HIT 231 – Medical Coding Skills Laboratory
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 221 and HIT 230
This course provides laboratory practice in medical coding. The course allows the student to become proficient at skills learned in classification and coding systems theory classes. Student competency is demonstrated by accuracy in medical coding.

HIT 232 - Medical Coding Systems II
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 286, HIT 292, and HIT 296
This course is a continuation of Medical Coding Systems I which is intended to develop an understanding of coding and classification systems in order to assign valid medical codes. Instruction includes coding diagnoses and/or procedures, sequencing codes, analyzing actual medical records to identify data elements to be coded, and validating coded clinical information. Student competency includes demonstration of coding principles and applications (manual and/or computer assisted). This is a CORE course.

HIT 254 Organizational Improvement
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 232, HIT 255, HIT 286, HIT 292, and HIT 296
This course is a study of the purpose and principles of improving organizational performance through quality assessment and utilization management. Topics include use of quality improvement tools; data collection, display, analysis, and reporting methods; resource and risk management techniques; healthcare statistics; and application of accreditation and licensing standards. Student outcomes include demonstrated proficiency in the use of quality improvement techniques and application of accrediting agency standards.

HIT 255 – Principles of Supervision in HIT
Prerequisite: Acceptance into HIT Program
Co-Requisite: HIT 232, HIT 254, HIT 286, HIT 292, and HIT 296
This course is an introduction to principles of organization and supervision in a health information department. The course focuses on specific human resource management functions including communication, motivation, team building, budgeting, staff scheduling, productivity reporting, policy and procedure development, and equipment selection. Student competency includes demonstration of knowledge of human resource functions and application of supervisory skills.

**HIT 286 - Expanded Medical Coding**

*Prerequisite:* Acceptance into HIT Program
*Co-Requisite:* HIT 232, HIT 292, and HIT 296

This course is intended to develop an understanding of coding and classification systems in inpatient settings in order to assign valid medical codes. Instruction includes coding inpatient procedures, correct sequencing of codes, analyzing actual physician documentation to identify data elements to be coded, and validating coded clinical information. Student competency includes demonstration of inpatient coding principles and applications (manual and/or computer assisted).

**HIT 292 – HIT Exam Review**

*Prerequisite:* Acceptance into HIT Program
*Co-Requisite:* HIT 232, HIT 286, and HIT 296

This course is an extensive review of health information technology skills. Course work includes a review of various aspects of health information technology. Student outcomes include demonstrated understanding of the topics covered in this course.

**HIT 296 – Professional Practices Simulations**

*Prerequisite:* Acceptance into HIT Program
*Co-Requisite:* HIT 232, HIT 286, and HIT 292

This course allows students to correlate the experiences of previous courses with on-site, online, and on-campus simulations and learning experience. Emphasis is placed on application of all previous course work and orientation to all aspects of practice in a health information management department of a health care facility. Student competency is demonstrated by application of skills covered in theory and laboratory classes.

**HUM - Humanities**

**HUM 298 - Directed Studies in Humanities**

*Prerequisite:* RDG 085 and ENG 092 or higher placement

This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty, and the course may be repeated for credit.

**HUM 299-01 - PTK Honors Course I**

This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty, and the course may be repeated for credit.

**HUM 299-02 - PTK Honors Course II**

This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty, and the course may be repeated for credit.

**HUM 299-03 - PTK Honors Course III**

This course provides an opportunity for the student to study selected topics in the area of the humanities under the supervision of a qualified instructor. The specific topics will be determined by the interests of the students and faculty, and the course may be repeated for credit.

**IDS - Interdisciplinary Studies**

**IDS 299 - Directed Studies In Leadership**

*Prerequisite:* RDG 085 or higher placement

This course provides training and experience in leadership techniques and practice. The student is required to serve in leadership positions on campus or in the community. IDS 299 may be repeated for credit.
### ILT - Industrial Electronics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILT 100</td>
<td>Applied Electronic Computations</td>
<td>3T</td>
<td></td>
<td>This course is an applied mathematics and algebra course for students in electronics or similar programs. Topics include decimals, fractions, negative numbers, powers and roots, the metric system, logarithms, applied trigonometry, and algebra. Upon completion, the student should be able to perform applied mathematics calculations needed in electronics.</td>
</tr>
<tr>
<td>ILT 106</td>
<td>Concepts of Direct Current</td>
<td>3T, 4L</td>
<td>ILT 100 or ELT 111</td>
<td>This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety; terms and symbols; electrical theory; Ohm's law; power law; electrical measurement; DC electrical components; and series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed upon the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and the opportunity to prove the theories taught during classroom instruction.</td>
</tr>
<tr>
<td>ILT 107</td>
<td>Concepts of Alternating Current</td>
<td>3T, 4L</td>
<td>ILT 106 or ILT 111</td>
<td>This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits.</td>
</tr>
<tr>
<td>ILT 111</td>
<td>Concepts of Solid State Electronics</td>
<td>3T, 4L</td>
<td>ILT 107</td>
<td>This course is an introduction to semiconductor fundamentals and applications to electronic devices. The course covers the basic operations and applications to include rectifier circuits, transistors, and thyristors. Coverage is given to safety, use, and care with hazardous materials and personal as well as material and environmental considerations. Upon completion, the student should be able to construct and test for proper operation of various types of solid state devices.</td>
</tr>
<tr>
<td>ILT 112</td>
<td>Concepts of Digital Electronics</td>
<td>3T, 4L</td>
<td>ILT 113</td>
<td>This course provides instruction in digital electronics. Topics include number systems and codes, a review of Boolean algebra, logic elements, digital circuits, programmable logic circuits, and memory and computing circuits. This course provides laboratory exercises to analyze, construct, test, and troubleshoot digital circuits.</td>
</tr>
<tr>
<td>ILT 113</td>
<td>Concepts of Electronic Circuits</td>
<td>3T, 4L</td>
<td>ILT 111</td>
<td>This course covers the commonly utilized circuits found in all areas of electronics. These include various rectifiers, filters, voltage regulating circuits, operational amplifier circuits, ICs, and oscillator circuits. Upon completion, the student should be able to construct and test various types of electronic circuits.</td>
</tr>
<tr>
<td>ILT 115</td>
<td>Advanced Industrial Controls</td>
<td>3T</td>
<td>ILT 167 and ILT 197</td>
<td>This course emphasizes the fundamentals and applications of solid state motor starters. Topics include DC drives, AC variable frequency drives, thyristers, sequences circuits, and closed loop control, including PID process control. Upon completion, the student should be able to apply principles of solid state motor starters.</td>
</tr>
<tr>
<td>ILT 116</td>
<td>Advanced Industrial Controls Lab</td>
<td>4L</td>
<td>ILT 167 and ILT 197</td>
<td>This lab emphasis DC drives, AC variable frequency drives, thyristers, sequences circuits, and closed loop control, including PID process control. Upon completion, the student should be able to apply principles of solid state motor starters.</td>
</tr>
</tbody>
</table>
| ILT 148     | Automatic Controls Systems                        | 3T      | ILT 115, ILT 116, ILT 169, ILT 216, and ILT 217 | This course emphasizes automated control systems and sub-systems. Topics include robotics, programmable hydraulics,
pneumatic, microprocessor, variable speed drives, transducers, and related control circuitry with emphasis on troubleshooting the total system. Upon completion, the student should be able to apply principles of automated control systems.

**ILT 149 - Automatic Controls Systems Lab**
*Prerequisite:* ILT 115, ILT 116, ILT 169, ILT 216, and ILT 217
*Co-Requisite:* ILT 148
This lab emphasizes robotics, programmable hydraulics/pneumatic, microprocessors, variable-speed drives, transducers, and related control circuitry with emphasis on troubleshooting the total system. Upon completion, the student should be able to apply principles of automated control systems.

**ILT 164 - Circuit Fabrication**
*Prerequisite:* ILT 107
This course provides instruction in fabrication of functional circuits and introduces device construction and fabrication. Utilizing discrete components, students will fabricate functional circuits. Topics include soldering, cable construction, coaxial cable connection and termination, component mounting cases, chassis, printed circuit board design, layout, fabrication, and repair, as well as soldering techniques, care of tools, wire splicing, wire wrapping, connector auxiliary services, and related shop safety. Upon completion of this course, the student should be able to perform basic circuit and project construction.

**ILT 167 - AC/DC Machinery and Controls I**
*Prerequisite:* ILT 107
This course provides the student with knowledge in AC/DC machinery and controls. Topics include the characteristics and operating principles of different types of AC/DC generators and motors, manual and automatic starters, and controllers. The lab enables students to test, troubleshoot, and repair AC/DC machinery and controls. Upon completion, the student should be able to apply practical skills in AC/DC machinery.

**ILT 169 - Hydraulics/Pneumatics**
This course provides an introduction to hydraulics/pneumatics. Topics include hydraulic pumps, pneumatic compressors, and work and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. The lab enables students to test, troubleshoot, and repair hydraulic pumps, pneumatic compressors work, and system components such as valves, filters, regulators, actuators, accumulators, and lubricators. Upon completion, students will be able to apply principles of hydraulic/pneumatics.

**ILT 176 - Elements of Industrial Control**
*Prerequisite:* ILT 107
*Co-Requisite:* ILT 177 and ILT 197
This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated lab, a student should be able to configure and program a PLC.

**ILT 177 - Elements of Industrial Control Lab**
*Prerequisite:* ILT 107
*Co-Requisite:* ILT 176 and ILT 197
This course covers the basics of automatic control of industrial systems using the programmable logic controller. Topics include relay logic, ladder logic, motor controls, and the development of ladder logic using software. Upon completion of this course and the associated theory course, a student should be able to configure and program a PLC.

**ILT 180 - Special Topics**
*Permission of instructor required.*
This course is designed to allow students an opportunity to study directly related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, the student should be able to solve job-related problems using technical skills and knowledge.

**ILT 194 - Introduction to Programmable Logic Controllers**
*Prerequisite:* ILT 107
*Co-Requisite:* ILT 197
This course provides an introduction to programmable logic controllers. Emphasis is placed on, but not limited to, the following: PLC hardware and software, numbering systems, installation, and programming. Upon completion, students must demonstrate their ability by developing, loading, debugging, and optimizing PLC programs.
ILT 195 - Troubleshooting Techniques I
Prerequisite: ILT 107, ILT 169, ILT 194, and ILT 197
This course focuses on the systematic approach to solving problems. Emphasis is placed on instrument failures and their interaction with process downtime. Upon completion, the student should be able to solve problems on a process simulator or in an actual setting.

ILT 197 - Motor Controls I
Prerequisite: ILT 107
This course is a study of the construction, operating characteristics, and installation of different motor control circuits and devices. Emphasis is placed on the control of three phase AC motors. This course covers the use of motor control symbols, magnetic motor starters, running overload protection, pushbutton stations, multiple control stations, two wire control, three wire control, jogging control, sequence control, and ladder diagrams of motor control circuits. Upon completion, students should be able to understand the operation of motor starters, overload protection, and complex motor control diagrams as well as interpret ladder diagrams using pushbutton stations.

ILT 200 - Survey of Various Manufacturers of Programmable Logic Controllers
Prerequisite: ILT 276 and ILT 277
This course provides an introduction to various manufacturers of programmable logic controllers. The student will learn how the various manufacturers differ on their approaches to manufacturing and programming their PLCs, and they will learn how they are similar. Upon completion, the student will have been exposed to various PLCs and will be able to confidently enter a PLC work environment and perform Auxiliary Services procedures on the PLCs used there.

ILT 216 - Industrial Robotics
Prerequisite: ILT 197
Co-Requisite: ILT 217
This course covers principles of electro-mechanical devices. Topics include the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion, the student should be able to apply the principles of electro-mechanical devices.

ILT 217 - Industrial Robotics Lab
Prerequisite: ILT 197
Co-Requisite: ILT 216
This lab covers the principles, concepts, and techniques involved in interfacing microcomputers to various electro-mechanical devices to produce geographical movement. Upon completion, the student should be able to apply the principles of electro-mechanical devices.

ILT 227 - National Electrical Code (NEC)
This course provides in-depth study of safety procedures according to the National Electrical Code. Topics include residential, commercial, and industrial wiring procedures. Upon completion, students should be able to apply principles of the National Electrical Code Manual to specific residential, commercial, and industrial applications.

ILT 231 - National Electrical Code (NEC)
This course introduces students to the National Electric Code. Emphasis is placed on locating and interpreting needed information within the NEC manual. Upon completion of this course, the student should be able to locate code requirements for a specific electrical installation.

ILT 239 - Certification Preparation
Prerequisite: ILT 112
This course includes the review necessary before attempting technician certification examinations given by various non-government certifying organizations and pre-employment tests given by employers. Upon completion of this course, students should understand the preparations necessary to successfully complete the exam process.

ILT 251 - RF Communications
Prerequisite: ILT 112
This course provides a study of transmitting and receiving analog communication signals used in radio, television, and radio frequency (RF) communication applications. Emphasis is placed on circuits producing, transmitting, and receiving RF signals used in radio, television, and RF communication. Upon completion, the student should be able to apply RF communication principles in the transmitting and receiving of radio, television, and RF communication signals.
ILT 252 - Digital Communications 3 Hours: 1T, 4L
Prerequisite: ILT 112
This course provides a study of transmitting and receiving digital communication signals used in radio, television, and digital communication applications. Emphasis is placed on circuits that produce, transmit, and receive digital signals used in radio, television, and digital communication. Upon completion, the student should be able to apply digital communication principles in the transmitting and receiving of radio, television, and digital communication signals.

ILT 271 - Independent Study 2 Hours: 2L
This course is designed to allow the student to independently study various topics related to instrumentation technology. Emphasis is placed on the refinement or advancement of a particular skill or skills. Upon completion, the student should be able to perform specific job-related functions according to standard operating procedures.

ILT 276 - Elements of Industrial Control II 3 Hours: 3T
Prerequisite: ILT 194 or ELT 231 or ILT 176
Co-Requisite: ILT 277
This course includes the advanced principals of PLCs including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs and troubleshooting hardware and software communication problems. Upon completion, the student should be able to demonstrate an ability in developing programs and troubleshooting the system.

ILT 277 - Elements of Industrial Control II Lab 2 Hours: 2L
Prerequisite: ILT 194 or ELT 231 or ILT 177
Co-Requisite: ILT 276
This course includes the advanced principals of PLCs including hardware, programming, variable speed drives, and troubleshooting. Emphasis is placed on developing advanced working programs and troubleshooting hardware and software communication problems. Upon completion, the student should be able to demonstrate an ability in developing programs and troubleshooting the system.

ILT 280 - Special Topics 3 Hours: 3L
Permission of instructor required.
This course is designed to allow students an opportunity to study directly related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, the student should be able to solve job-related problems using technical skills and knowledge.

ILT 281 - Special Topics for Industrial Electronics I 3 Hours: 1T, 4L
Permission of instructor required.
This course is designed to allow students an opportunity to study directly-related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, students should be able to solve job-related problems using technical skills and knowledge.

ILT 282 - Special Topics for Industrial Electronics II 3 Hours: 1T, 4L
Permission of instructor required.
This course is designed to allow students an opportunity to study directly-related topics of particular interest which require the application of technical knowledge and technical skills. Emphasis is placed on the application of skills and knowledge with practical experiences. Upon completion, students should be able to solve job-related problems using technical skills and knowledge.

ILT 289 - Cooperative Education 1 Hour: T, L
Permission of instructor required.
This course provides students work experience with a College-approved employer in an area directly related to the student’s program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, the student should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

ILT 290 - Cooperative Education 2 Hours: 4L
Permission of instructor required.
This course provides the student work experience with a College-approved employer in an area directly related to the student’s program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students
should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

ILT 291 - Cooperative Education

**Permission of instructor required.**

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

**INT - Industrial Auxiliary Services Technology**

**INT 112 - Industrial Auxiliary Services Safety Procedures**

3 Hours: 3T

This course is an in-depth study of the health and safety practices required for auxiliary services of industrial production equipment. Topics include traffic, ladder, electrical, and fire safety; safe work in confined spaces; electrical and mechanical lock-out procedures; emergency procedures; OSHA regulations; the MSDS Right-to-Know law; hazardous materials safety; and use and care of safety equipment. Upon course completion, students will be able to implement health and safety practices in an industrial production setting.

**INT 117 - Principles of Industrial Mechanics**

3 Hours: 2T, 1L

This course provides instruction in basic physics concepts applicable to mechanics of industrial production equipment. Topics include the basic application of mechanical principles with emphasis on power transmission, specific mechanical components, alignment, and tension. Upon completion, the student should be able to perform basic troubleshooting, repair, and auxiliary services functions on industrial production equipment. This is a CORE course.

**INT 118 – Fundamentals of Industrial Hydraulics and Pneumatics**

3 Hours: 2T, 1L

This course includes the fundamental concepts and theories for the safe operation of hydraulic and pneumatic systems used with industrial production equipment. Topics include the physical concepts, theories, laws, air flow characteristics, actuators, valves, accumulators, symbols, circuitry, filters, servicing safety, and preventive auxiliary services and the application of these concepts to perform work. Upon completion, the student should be able to service and perform preventive auxiliary services functions on hydraulic and pneumatic systems. This is a CORE course.

**INT 119 - Principles of Mechanical Measurement and Tech Drawing**

3 Hours: 1T, 4L

This course provides instruction in the use of precision measuring tools and the interpretation of technical drawings. Topics include the use of calipers, micrometers, steel rules, dial indicators; identifying types of lines and symbols of technical drawings; and recognition and interpretation of various types of views, tolerances, and dimensions. Upon course completion, students will be able to use precision measuring tools and interpret technical drawings.

**INT 120 – Concepts of Direct Current**

5 Hours: 3T, 4L

This course provides an advanced study of direct current (DC) concepts and application principles. Specific topics include safety; terms and symbols; electrical theory; Ohm’s law; power law; electrical measurement; DC electrical components; and series, parallel, and series-parallel circuit construction. Students gain hands-on experience through various laboratory problems. Emphasis is placed on the use of scientific calculators, reading schematics, and the operation of common test equipment used to analyze and troubleshoot DC circuits and to prove the theories taught during classroom instruction. This course may serve as a substitute core for DC Fundamentals.

**INT 122 – Concepts of Alternating Current**

5 Hours: 3T, 4L

This course provides an advanced study of alternating current (AC) concepts and application principles. Specific topics include safety, terms and symbols, AC electrical theory, components, circuits, electrical measurement instruments, laws of AC, and methods for constructing and measuring various types of AC circuits. Students gain hands-on experience through laboratory exercises designed to analyze complex circuits, power requirements, faults, phase relationships, and power factors. Emphasis is placed on the use of scientific calculators and the operation of various types of test equipment used to analyze and troubleshoot AC circuits. This course may serve as a substitute core for AC Fundamentals.

**INT 134 - Principles of Industrial Auxiliary Services Welding and Metal Cutting Techniques**

3 Hours: 2T, 1L

This course provides instruction in the fundamentals of acetylene cutting and the basics of welding needed for the auxiliary services and repair of industrial production equipment. Topics include oxy-fuel safety, choice of cutting equipment, proper cutting angles, equipment setup, cutting place and pipe, hand tools, types of metal welding machines, rod and welding joints, and common welding passes and beads. Upon completion, the student should demonstrate the ability to perform metal welding and cutting techniques necessary for repairing and maintaining industrial equipment. This is a CORE course.
INT 139 - Introduction to Robotic Programming  
This course provides an introduction to robotic programming. Emphasis is on, but not limited to, the following: safety, motion programming, creating and editing programs, I/O instructions, macros, program and file storage. Upon completion, the student will be able to safely perform basic functions in the work cell as well as program a robot to perform simple functions.

INT 153 - Precision Machining Fundamentals  
Prerequisite: INT 119 or MTT 121 and MTT 127  
This course focuses on metal cutting machines used to make parts and tools. Topics include lathes, mills, drills, and presses. Upon course completion, students will have the ability to use precision measurement instruments and to read mechanical drawings.

INT 158 - Industrial Wiring  
This course focuses on principles and applications of commercial and industrial wiring. Topics include electrical safety practices, an overview of National Electric Code requirements as applied to commercial and industrial wiring, conduit bending, circuit design, pulling cables, transformers, switch gear, and generation principles.

LBS - Library Science  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBS 101</td>
<td>Introduction to Library Use II</td>
<td>1 Hour</td>
<td>RDG 085 or higher placement</td>
</tr>
<tr>
<td>LBS 102</td>
<td>Introduction to Library Use III</td>
<td>1 Hour</td>
<td>RDG 085 or higher placement</td>
</tr>
</tbody>
</table>

MCM - Mass Communications  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCM 100</td>
<td>Introduction to Mass Communication</td>
<td>3 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
<tr>
<td>MCM 102</td>
<td>Writing for the Mass Media</td>
<td>3 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
<tr>
<td>MCM 113</td>
<td>Student Publications</td>
<td>1-2 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
<tr>
<td>MCM 114</td>
<td>Student Publications</td>
<td>1-2 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
<tr>
<td>MCM 115</td>
<td>Student Publications</td>
<td>1-2 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
<tr>
<td>MCM 120</td>
<td>Introduction to Journalism</td>
<td>3 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
<tr>
<td>MCM 130</td>
<td>News Reporting</td>
<td>3 Hours</td>
<td>RDG 085 and ENG 092 or higher placement</td>
</tr>
</tbody>
</table>
MCM 200 - News Photography 3 Hours
Co-Requisite: ENG 101
This course includes practice in camera techniques, film developing, and print making for newspapers and other publications.

MCM 213 - Student Publications 1-2 Hours
Prerequisite: RDG 085 and ENG 092 or higher placement
This course offers practical experience in journalism skills through work on student publications.

MCM 214 - Student Publications 1-2 Hours
Prerequisite: RDG 085 and ENG 092 or higher placement
This course offers practical experience in journalism skills through work on student publications.

MCM 215 - Student Publications 1-2 Hours
Prerequisite: RDG 085 and ENG 092 or higher placement
This course offers practical experience in journalism skills through work on student publications.

MCM 230 - Survey of Advertising 3 Hours
This course includes instruction in the structure and functions of the advertising agency and the elements of effective advertisement.

MCM 240 - Introduction to Public Relations 3 Hours
This course is an introduction to public relations techniques, including grouping, publication strategies, and preparation of publicity for media.

MTH - Mathematics

MTH 080 – Mathematics Laboratory 2 Hours
This course is designed to offer supplemental help to students in mathematics. Students work in a laboratory situation under qualified instructors. This course may be repeated as needed. Emphasis is on arithmetic and algebra as determined by the individual need of the student.

MTH 090 - Basic Mathematics 2 Hours
Prerequisite: A letter grade of B or higher in MTH 080 or appropriate mathematics placement score.
This is a developmental course reviewing arithmetical principles and computations designed to help the student’s mathematical proficiency for selected curriculum entrance.

MTH 091 – Developmental Algebra I 2 Hours
Prerequisite: A letter grade of B or higher in MTH 090 or appropriate mathematics placement score.
This developmental course provides the student with a review of arithmetic and algebraic skills designed to provide sufficient mathematical proficiency for Developmental Algebra II.

MTH 092 – Developmental Algebra II 2 Hours
Prerequisite: A letter grade of B or higher in MTH 091 or appropriate mathematics placement score.
This developmental course provides the student with a review of arithmetic and algebraic skills designed to provide sufficient mathematical proficiency necessary for entry into Intermediate College Algebra.

MTH 100 - Intermediate College Algebra 3 Hours
Prerequisite: A letter grade of B or higher in MTH 092 or MTH 098 or appropriate mathematics placement score.
This course provides a study of algebraic techniques such as linear equations and inequalities, quadratic equations, systems of equations, and operations with exponents and radicals. Functions and relations are introduced and graphed with special emphasis on linear and quadratic functions. This course does not apply toward the general core requirements for mathematics.

MTH 110 - Finite Mathematics 3 Hours
Prerequisite: A letter grade of C or higher in MTH 100 or higher math placement score.
This course is intended to give an overview of topics in finite mathematics together with their applications and is taken primarily by the student not majoring in science, engineering, commerce, or mathematics. This course will draw on and significantly enhance the student’s arithmetic and algebraic skills. The course includes sets, counting, permutations, combinations, basic probability (including Baye’s Theorem), introduction to statistics (including work with binomial distributions and normal
distributions), and matrices and their applications to Markov chains and decision theory. Additional topics may include symbolic
logic, linear models, linear programming, the simplex method, and applications.

**MTH 112 - Precalculus Algebra** 3 Hours
**Prerequisite:** A letter grade of C or higher in MTH 100 or higher math placement score
This course emphasizes the algebra and graphs of functions including polynomial, rational, exponential, and logarithmic
functions. The course also covers systems of equations and inequalities, polynomial and rational inequalities, and the use of
matrices to solve linear equations. Additional topics may include linear programming, the binomial theorem, and partial
fraction decomposition.

**MTH 113 - Precalculus Trigonometry** 3 Hours
**Prerequisite:** A letter grade of C or higher in MTH 112 or higher math placement score
This course includes the study of trigonometric (circular functions) and inverse trigonometric functions and includes extensive
work with trigonometric identities, trigonometric equations, the law of sines, and the law of cosines. The course also covers
vectors, complex numbers, DeMoivre’s Theorem, and polar coordinates. Additional topics may include conic sections.

**MTH 116 - Mathematical Applications** 3 Hours
**Prerequisite:** A letter grade of B or higher in MTH 090 or higher math placement
This course provides practical applications of mathematics and includes selected topics from consumer math and algebra. Some
topics included are integers, percent, interest, ratio and proportion, metric system, probability, linear equations, and problem
solving. This is a terminal course designed for the student seeking an AAS degree and does not meet the general core requirement
for mathematics.

**MTH 120 - Calculus and Its Applications** 3 Hours
**Prerequisite:** A letter grade of C or higher in MTH 112 or higher math placement
This course is intended to give a broad overview of calculus and is taken primarily by the student majoring in commerce and
business administration. It includes differentiation and integration of algebraic, exponential, and logarithmic functions; and the definite integral and its basic applications to area problems. Applications of the derivative are covered in
detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using
calculus.

**MTH 125 - Calculus I** 4 Hours
**Prerequisite:** A letter grade of C or higher in MTH 113 or higher math placement
This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering, and
mathematics. Topics include the limit of a function; the derivative of algebraic, trigonometric, exponential, and logarithmic
functions; and the definite integral and its basic applications to area problems. Applications of the derivative are covered in
detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using
calculus.

**MTH 126 - Calculus II** 4 Hours
**Prerequisite:** A letter grade of C or higher in MTH 125
This is the second of three courses in the basic calculus sequence. Topics include vectors in the plane and in space; lines and
planes in space; applications of integration (such as volume, arc length, work, and average value); techniques of integration;
infinite series; polar coordinates; and parametric equations.

**MTH 227 - Calculus III** 4 Hours
**Prerequisite:** A letter grade of C or higher in MTH 126
This is the third of three courses in the basic calculus sequence. Topics include vector functions, functions of two or more
variables, partial derivatives (including applications), quadric surfaces, multiple integration, and vector calculus including
Green’s Theorem, curl and divergence, surface integrals, and Stokes’ Theorem.

**MTH 231 - Math for the Elementary Teacher I** 3 Hours
**Prerequisite:** A letter grade of C or higher in MTH 100 or higher math placement or higher math completion
This course is designed to provide appropriate insights into mathematics for the student majoring in elementary education and to
ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics
include logic, sets and functions, operations and properties of whole numbers and integers including number theory; use of
manipulatives by teachers to demonstrate abstract concepts. Upon completion, the student is required to demonstrate proficiency
in each topic studied as well as to learn teaching techniques that are grade level and subject matter appropriate and test for
mathematical proficiency and the learning of teaching concepts.
MTH 232 - Math for the Elementary Teacher II  
Prerequisite: A letter grade of C or higher in MTH 100 or higher math placement or higher math completion  
This course is the second of a three course sequence and is designed to provide appropriate insights into mathematics for students majoring in elementary education. Topics include numeration skills with fractions, decimals and percentages, elementary concepts of probability and statistics, and analytic geometry concepts associated with linear equations and inequalities. The use of manipulatives and calculators in the teaching and learning process is stressed. Upon completion, the student will test for mathematical proficiency and the learning of teaching concepts. The student also should demonstrate an appropriate teaching technique by preparing a lesson and teaching it to the class for the final exam grade.

MTH 237 – Linear Algebra  
Prerequisite: A letter grade of C or higher in MTH 126  
This course introduces the basic theory of linear equations and matrices, real vector spaces, bases and dimension, linear transformations and matrices, determinants, eigenvalues and eigenvectors, inner product spaces, and the diagonalization of symmetric matrices. Additional topics may include quadratic forms and the use of matrix methods to solve systems of linear differential equations.

MTH 238 - Applied Differential Equations I  
Prerequisite: A letter grade of C or higher in MTH 126  
Co-Requisite: MTH 227  
An introduction to numerical methods; qualitative behavior of first order differential equations, techniques for solving separable and linear equations analytically; and applications to various models (e.g. populations, motion, chemical mixtures, etc.); techniques for solving higher order linear differential equations with constant coefficients (general theory, undetermined coefficients, reduction of order and the method of variation of parameters); with emphasis on interpreting the behavior of the solutions, and applications to physical models whose governing equations are of higher order; the Laplace transform as a tool for the solution of initial value problems whose inhomogeneous terms are discontinuous.

MTH 265 - Elementary Statistics  
Prerequisite: MTH 100 or higher math placement score or higher math completion  
This course provides an introduction to methods of statistics, including the following topics: sampling, frequency distributions, measures of central tendency, graphic representation, reliability, hypothesis testing, confidence intervals, analysis, regression analysis, estimation, and applications. Probability, permutations, combinations, binomial theorem, random variable, and distributions will be included.

MTT - Machine Tool Technology  
MTT 100 - Machining Technology I  
This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, drilling machines, saws, milling machines, bench grinders, and layout instruments. Upon completion, the student should be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling.

MTT 103 - Machining Technology II  
This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on setup and operation of machine tools including the selection of work-holding devices, speeds, feeds, cutting tools, and coolants. Upon completion, the student should be able to perform basic procedures of precision grinding and advanced operations of measuring, layout, drilling, sawing, turning, and milling.

MTT 107 - Machining Calculations I  
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, the student should be able to perform basic shop calculations.

MTT 108 - Machine Handbook Functions I  
This course covers the machinist’s handbook. Emphasis is placed on formulas, tables, usage, and related information. Upon completion, the student should be able to use the handbook in the calculation and set-up of machine tools.

MTT 121 - Basic Blueprint Reading for Machinists  
This course covers the basic principles of blueprint reading and sketching. Topics include multi-view drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, the student should be able to interpret basic drawings, visualize parts, and make pictorial sketches.
MTT 127 - Metrology 3 Hours: 2T, 2L
This course introduces the use of precision measuring instruments. Emphasis is placed on the inspection of machine parts and use of a wide variety of measuring instruments. Upon completion, students should be able to demonstrate the correct use of measuring instruments.

MTT 129 - Lathe Operations 6 Hours: 2T, 8L
This course includes more advanced lathe practices such as taper turning, threading, boring, and set-up procedures. Emphasis is placed on safety procedures and the machinist responsibility in the set-up and operation of lathes. Upon completion, the student should be able to apply lathe techniques to produce tool projects.

MTT 136 - Milling Operations 6 Hours: 2T, 8L
This course provides basic knowledge of milling machines. Emphasis is placed on types of milling machines and their uses, cutting speed, feed calculations, and set-up procedures. Upon completion, the student should be able to apply milling techniques to produce machine tool projects.

MTT 142 - Advanced Machining Calculations 3 Hours: 2T, 2L
This course combines mathematical functions with practical machine shop applications and problems. Emphasis is placed on gear ratios, lead screws, indexing problems, and applications in the machine shop. Upon completion, students should be able to calculate solutions to machining problems.

MTT 146 - Precision Grinding Machines I 6 Hours: 2T, 8L
This course is the study of precision grinding machines and their operations. The course will also focus on the different types of grinding machines, different set-up procedures, grinding wheel characteristics and selection, and surface finish requirements and characteristics.

MTT 154 - Metallurgy 3 Hours: 2T, 2L
This course covers the production, properties, testing, classification, microstructure, and heat treating effects of ferrous and non-ferrous metals. Topics include the iron-carbon phase diagram, ITT diagram, ANSI code, quenching, senescing, and processes concerning metallurgical transformations. Upon completion, the student should be able to understand the iron-carbon phase diagram, ITT diagram, microstructure images, and other phenomena concerning the behavior of metals.

MTT 171 - Intermediate Blueprint Reading 3 Hours: 3T
The purpose of this course is for students to further apply knowledge and skills with reading and interpreting blueprints for machining operations. Specific topics include calculating missing dimensions from drawings, drawing different views of an object, knowledge of features and types of threads and fasteners used in mechanical objects, types of surface requirements on blueprints, and blueprint interpretation for casting and weldments.

MTT 181 - Special Topics in Machine Tool Technology 3 Hours: 1T, 4L
This course is a guided independent study of special projects in machine tool technology. Emphasis is placed on the student’s needs. Upon completion, the student should be able to demonstrate skills developed to meet specific needs.

MTT 182 - Special Topics in Machine Tool Technology 3 Hours: 1T, 4L
This course is a guided independent study of special projects in machine tool technology. Emphasis is placed on the student’s needs. Upon completion, the student should be able to demonstrate skills developed to meet specific needs.

MTT 281 - Special Topics in Machine Tool Technology 3 Hours: 1T, 4L
This course is a guided independent study of special projects in machine tool technology. Emphasis is placed on the student’s needs. Upon completion, the student should be able to demonstrate skills developed to meet specific needs.

MTT 282 - Special Topics in Machine Tool Technology 3 Hours: 1T, 4L
This course is a guided independent study of special projects in machine tool technology. Emphasis is placed on the student’s needs. Upon completion, the student should be able to demonstrate skills developed to meet specific needs.

MTT 291 - Cooperative Education in Machine Tool Technology 3 Hours: 15i each
Students work on a part-time basis in a job directly related to machine tool technology. The employer and supervising instructor evaluate students’ progress. Upon completion, the student should be able to apply skills and knowledge in an employment setting.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUL 101</td>
<td>Class Piano I</td>
<td>1 Hour</td>
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<td>MUL 172</td>
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<td>Prerequisite: Permission of the instructor</td>
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<td>This course includes the study of musical theatre history, styles, performance, and technical production. Emphasis is placed on the supervised study, preparation, production, and performances of scenes or complete works of musical theatre. Upon completion, the student should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role.</td>
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<td>MUL 173</td>
<td>Musical Theatre Workshop II</td>
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<td>MUL 180</td>
<td>Chorus I</td>
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<td>MUL 181</td>
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<td>MUL 184</td>
<td>Jazz/Show Choir I</td>
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MUL 185 - Jazz/Show Choir II 1-2 Hours
Prerequisite: MUL 184
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 192 - Instrumental Ensemble I 1-2 Hours
Prerequisite: Permission of the instructor
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 193 - Instrumental Ensemble II 1-2 Hours
Prerequisite: MUL 192
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 196 - Jazz/Show Band I 1-2 Hours
Prerequisite: Permission of the instructor
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 197 - Jazz/Show Band II 1-2 Hours
Prerequisite: MUL 196
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 201 - Class Piano III 1 Hr. Prerequisite: MUL 102
Group instruction is available in voice, piano, strings, woodwinds, brass, percussion, and fretted instruments for the student with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique, and general musicianship skills. Upon completion of one or a sequence of courses, the student should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals.

MUL 202 - Class Piano IV 1 Hour
Prerequisite: MUL 201
Group instruction is available in voice, piano, strings, woodwinds, brass, percussion, and fretted instruments for the student with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique, and general musicianship skills. Upon completion of one or a sequence of courses, the student should be able to demonstrate a basic proficiency in singing or playing and a knowledge of music fundamentals.

MUL 272 - Musical Theatre Workshop III 1-2 Hours
Prerequisite: Permission of the instructor
This course includes the study of musical theatre history, styles, performance, and technical production. Emphasis is placed on the supervised study, preparation, production, and performances of scenes or complete works of musical theatre. Upon completion, the student should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role.

MUL 273 - Musical Theatre Workshop IV 1-2 Hours
Prerequisite: Permission of the instructor
This course includes the study of musical theatre history, styles, performance, and technical production. Emphasis is placed on the supervised study, preparation, production, and performances of scenes or complete works of musical theatre. Upon completion, the student should be able to effectively participate in a public presentation of the prepared scenes or work in an assigned performance or technical role.
MUL 280 - Chorus III 1-2 Hours
Prerequisite: MUL 181
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 281 - Chorus IV 1-2 Hours
Prerequisite: MUL 280
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 284 - Jazz/Show Choir III 1-2 Hours
Prerequisite: MUL 185
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 285 - Jazz/Show Choir IV 1-2 Hours
Prerequisite: MUL 284
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 292 - Instrumental Ensemble III 1-2 Hours
Prerequisite: MUL 193
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 293 - Instrumental Ensemble IV 1-2 Hours
Prerequisite: MUL 292
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 296 - Jazz/Show Band III 1-2 Hours
Prerequisite: MUL 197
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUL 297 - Jazz/Show Band IV 1-2 Hours
Prerequisite: MUL 296
This course provides an opportunity for the student to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, the student should be able to effectively participate in performances presented by the ensemble.

MUP - Music – Performance (MUP)
MUP 101 - Private Piano I 1-2 Hours
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.
MUP 102 - Private Piano II
Prerequisite: MUP 101
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 111 - Private Voice I
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 112 - Private Voice II
Prerequisite: MUP 111
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 133 - Private Guitar I
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 134 - Private Guitar II
Prerequisite: MUP 133
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 141 - Private Flute I
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 142 - Private Flute II
Prerequisite: MUP 141
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 143 - Private Clarinet I  
**Prerequisite:** Permission of the instructor  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 144 - Private Clarinet II  
**Prerequisite:** MUP 143  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 145 - Private Saxophone I  
**Prerequisite:** Permission of the instructor.  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 146 - Private Saxophone II  
**Prerequisite:** MUP 145  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 151 - Private Oboe I  
**Prerequisite:** Permission of the instructor  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 152 - Private Oboe II  
**Prerequisite:** MUP 151  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 153 - Private Bassoon I  
**Prerequisite:** Permission of the instructor  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 154 - Private Bassoon II
Prerequisite: MUP 153
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 161 - Private Trumpet I
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 162 - Private Trumpet II
Prerequisite: MUP 161
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 163 - Private French Horn I
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 164 - Private French Horn II
Prerequisite: MUP 163
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 165 - Private Mellophone I
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.
MUP 166 - Private Mellophone II 1-2 Hours
Prerequisite: MUP 165
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 171 - Private Trombone I 1-2 Hours
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 172 - Private Trombone II 1-2 Hours
Prerequisite: MUP 171
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 173 - Private Euphonium I 1-2 Hours
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 174 - Private Euphonium II 1-2 Hours
Prerequisite: MUP 173
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 175 - Private Tuba I 1-2 Hours
Prerequisite: Permission of the instructor
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 176 - Private Tuba II 1-2 Hours
Prerequisite: MUP 175
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

**MUP 181 - Private Percussion I**  
**Prerequisite:** Permission of the instructor  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

**MUP 182 - Private Percussion II**  
**Prerequisite:** MUP 181  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

**MUP 201 - Private Piano III**  
**Prerequisite:** MUP 102  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

**MUP 202 - Private Piano IV**  
**Prerequisite:** MUP 201  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

**MUP 211 - Private Voice III**  
**Prerequisite:** MUP 112  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested of the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

**MUP 212 - Private Voice IV**  
**Prerequisite:** MUP 211  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.
MUP 233 - Private Guitar III  1-2 Hours
Prerequisite: MUP 134
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 234 - Private Guitar IV  1-2 Hours
Prerequisite: MUP 233
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 241 - Private Flute III  1-2 Hours
Prerequisite: MUP 142
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 242 - Private Flute IV  1-2 Hours
Prerequisite: MUP 241
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 243 - Private Clarinet III  1-2 Hours
Prerequisite: MUP 144
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 244 - Private Clarinet IV  1-2 Hours
Prerequisite: MUP 243
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 245 - Private Saxophone III  1-2 Hours
Prerequisite: MUP 146
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 246 - Private Saxophone IV
Prerequisite: MUP 245
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds,
brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills
commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 251 - Private Oboe III
Prerequisite: MUP 152
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds,
brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills
commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 252 - Private Oboe IV
Prerequisite: MUP 251
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds,
brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills
commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 253 - Private Bassoon III
Prerequisite: MUP 154
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds,
brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills
commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 254 - Private Bassoon IV
Prerequisite: MUP 253
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds,
brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills
commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 261 - Private Trumpet III
Prerequisite: MUP 162
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds,
brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills
commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for
each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in
an appropriate performance evaluation setting.

MUP 262 - Private Trumpet IV
Prerequisite: MUP 261
1-2 Hours
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be
requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 263 - Private French Horn III
Prerequisite: MUP 164
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 264 - Private French Horn IV
Prerequisite: MUP 263
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 265 - Private Mellophone III
Prerequisite: MUP 166
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 266 - Private Mellophone IV
Prerequisite: MUP 265
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 271 - Private Trombone III
Prerequisite: MUP 172
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 272 - Private Trombone IV
Prerequisite: MUP 271
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.
MUP 273 - Private Euphonium III  
Prerequisite: MUP 174  
1-2 Hours  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 274 - Private Euphonium IV  
Prerequisite: MUP 273  
1-2 Hours  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 275 - Private Tuba III  
Prerequisite: MUP 176  
1-2 Hours  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 276 - Private Tuba IV  
Prerequisite: MUP 275  
1-2 Hours  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 281 - Private Percussion III  
Prerequisite: MUP 182  
1-2 Hours  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUP 282 - Private Percussion IV  
Prerequisite: MUP 281  
1-2 Hours  
Applied study in voice and instrumental areas is limited to four semesters of study. Additional study for students may be requested by the instructor. Individual performance instruction is available in keyboard instruments, voice, strings, woodwinds, brass, percussion, and fretted instruments. Emphasis is placed on developing technique, repertoire, and performance skills commensurate with the student’s educational goals. The student is required to practice a minimum of five hours per week for each credit hour. Upon completion, the student should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting.

MUS - Music  

MUS 100 - Convocation  
Prerequisite: MUP 182  
1 Hour  
This course, required for music majors and minors each semester, is designed to expose the student to a variety of repertory styles and to give the student an opportunity to practice individual performance skills. Emphasis is placed on exposure to performances and lectures by guest artists, faculty, or students, and on personal performance(s) in class each semester.
MUS 101 - Music Appreciation  3 Hours
Prerequisite: None
This course is designed for non-music majors and requires no previous musical experience. It is a survey course incorporating several modes of instruction including lecture, guided listening, and experiences involving music. The course will cover a minimum of three stylistic periods, provide a multi-cultural perspective, and include both vocal and instrumental genres. Upon completion, the student should be able to demonstrate a knowledge of music fundamentals, the aesthetic/stylistic characteristics of historical periods, and an aural perception of style and structure in music.

MUS 110 - Basic Musicianship  3 Hours
This course is designed to provide rudimentary music knowledge and skills for the student with a limited music background. Topics include a study of notation, rhythm, scales, keys, intervals, chords, as well as basic sight singing and ear training skills. Upon completion, the student should be able to read and understand musical scores and demonstrate basic sight singing and ear training skills for rhythm, melody, and harmony.

MUS 111 - Music Theory I  3 Hours
Prerequisite: MUS 110 or permission of the instructor
Co-Requisite: MUS 113, if ear training lab is a separate course
This course introduces the student to the diatonic harmonic practices in the Common Practice Period. Topics include fundamental musical materials (rhythm, pitch, scales, intervals, diatonic harmonies) and an introduction to the principles of voice leading and harmonic progression. Upon completion, the student should be able to demonstrate a basic competency using diatonic harmony through analysis, writing, sight singing, dictation, and keyboard skills.

MUS 112 - Music Theory II  3 Hours
Prerequisite: MUS 111
Co-Requisite: MUS 114, if ear training lab is a separate course
This course completes the study of diatonic harmonic practices in the Common Practice Period and introduces simple musical forms. Topics include principles of voice leading used in three- and four-part triadic harmony and diatonic seventh chords, non-chord tones, cadences, phrases, and periods. Upon completion, the student should be able to demonstrate competence using diatonic harmony through analysis, writing, sight singing, dictation, and keyboard skills.

MUS 113 - Music Theory Lab I  1 Hour
Prerequisite: MUS 110 or permission of the instructor
Co-Requisite: MUS 111
This course provides the practical application of basic musical materials through sight singing; melodic, harmonic, and rhythmic dictation; and keyboard harmony. Topics include intervals, simple triads, diatonic stepwise melodies, basic rhythmic patterns in simple and compound meter, and four-part triadic progressions in root position. Upon completion, the student should be able to write, sing, and play intervals, scales, basic rhythmic patterns, diatonic stepwise melodies, simple triads, and short four-part progressions in root position.

MUS 114 - Music Theory Lab II  1 Hour
Prerequisite: MUS 113
Co-Requisite: MUS 112
This course continues the practical application of diatonic musical materials through sight singing; melodic, harmonic, and rhythmic dictation; and keyboard harmony. Topics include intervals, scales, diatonic melodies with triadic arpeggiations, more complex rhythmic patterns in simple and compound meter, and four-part diatonic progressions in all inversions. Upon completion, the student should be able to write, sing, and play all intervals, rhythmic patterns employing syncopations and beat divisions, diatonic melodies, and four-part diatonic progressions.

MUS 115 - Fundamentals of Music  3 Hours
Prerequisite: RDG 085 or higher placement
This course is designed to teach the basic fundamentals of music and develop usable musical skills for the classroom teacher. Topics include rhythmic notation, simple and compound meters, pitch notation, correct singing techniques, phrases, keyboard awareness, key signatures, scales, intervals, and harmony using I, IV, and V with a choral instrument. Upon completion, the student should be able to sing a song, harmonize a simple tune, demonstrate rhythmic patterns, and identify musical concepts through written documentation.

MUS 116 - Computer Applications in Music  2 Hours
Prerequisite: MUS 111 or equivalent
This course introduces the history and use of computer applications in music. Topics include an introduction to computer skills,
MIDI and the application of notation, and sequencing software programs (i.e. Finale). Upon completion, the student should be able to demonstrate basic competency in the use of computers in music.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Prerequisite/Co-requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 161</td>
<td>Diction For Singers</td>
<td>2-3</td>
<td>Permission of the instructor</td>
</tr>
<tr>
<td></td>
<td>This course introduces the basic rules of diction for singers in Italian, French, and German. Emphasis is placed on the use of the International Phonetic Alphabet. Upon completion, the student should be able to sing with correct diction art songs in Italian, French, and German.</td>
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<td></td>
</tr>
<tr>
<td>MUS 170</td>
<td>Introduction to Church Music</td>
<td>2-3</td>
<td>RDG 085 or higher placement</td>
</tr>
<tr>
<td></td>
<td>This course provides an overview of church music as a career choice and includes the organization and operation of a graded church choir program. Topics include an introduction to conducting, rehearsal techniques, and administrative skills, and may include a supervised practicum field experience. Upon completion, the student should be able to select, prepare, teach, and conduct a simple anthem for a graded church choir and demonstrate a knowledge of church music administration through written documentation.</td>
<td></td>
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</tr>
<tr>
<td>MUS 211</td>
<td>Music Theory III</td>
<td>3</td>
<td>MUS 112</td>
</tr>
<tr>
<td></td>
<td>This course introduces the student to the chromatic harmonic practices in the Common Practice Period. Topics include secondary functions, modulatory techniques, and binary and ternary forms. Upon completion, the student should be able to demonstrate competence using chromatic harmony through analysis, writing, sight singing, dictation, and keyboard skills.</td>
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</tr>
<tr>
<td>MUS 213</td>
<td>Music Theory Lab III</td>
<td>1</td>
<td>MUS 114</td>
</tr>
<tr>
<td></td>
<td>This course provides the practical application of chromatic musical materials through sight singing; melodic, harmonic, and rhythmic dictation; and keyboard harmony. Topics include melodies with simple modulations, complex rhythms in simple and compound meter, and secondary function chords. Upon completion, the student should be able to write, sing, and play modulating melodies, rhythmic patterns with beat subdivisions, and four-part chromatic harmony.</td>
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</tr>
<tr>
<td>MUS 215</td>
<td>Composition I</td>
<td>1-2</td>
<td>MUS 112 or permission of the instructor</td>
</tr>
<tr>
<td></td>
<td>This course introduces the basic techniques and applications of musical composition. Emphasis is placed on creativity and original thought processes in music. Upon completion, the student should be able to create an original musical composition.</td>
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<tr>
<td>MUS 251</td>
<td>Introduction to Conducting</td>
<td>2</td>
<td>MUS 110 or permission of the instructor</td>
</tr>
<tr>
<td></td>
<td>This course introduces the fundamentals of conducting choral and/or instrumental ensembles. Topics include a study of simple and compound meters, score reading, and techniques for conducting effective rehearsals. Upon completion, the student should be able to prepare and conduct a choral and/or instrumental score in a rehearsal or performance setting.</td>
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<tr>
<td>MUS 270</td>
<td>Organization of the Church Music Program</td>
<td>2</td>
<td>MUS 170</td>
</tr>
<tr>
<td></td>
<td>This course is designed to explore administrative models of a comprehensive church music program. Topics include leadership, administrative structure, music personnel, facilities, equipment, vestments, music library, budgets, planning, vocal and instrumental ensembles, and music program scheduling. Upon completion, the student should be able to demonstrate how to plan, coordinate, and administer a comprehensive church music program.</td>
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<tr>
<td>MUS 271</td>
<td>Church Music Literature</td>
<td>2</td>
<td>MUS 170</td>
</tr>
<tr>
<td></td>
<td>This course provides an historic survey of traditional church music from the 17th century to the present and introduces contemporary Christian styles. Topics include criteria for choosing appropriate music for graded church choirs at easy, medium, and advanced levels of difficulty, and a survey of publishing resources and cataloging systems. Upon completion, the student should be able to demonstrate a knowledge and understanding of church music literature.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUS 272</td>
<td>The Children’s Choir</td>
<td>2</td>
<td>Permission of the instructor</td>
</tr>
</tbody>
</table>
|             | This course is designed to provide techniques for working with the child’s voice in a choral setting. Topics include working with
children’s voices, rehearsal techniques, selecting literature, vestments, and organizing a graded choir program. Upon completion, the student should be able to demonstrate how to plan, coordinate, and administer a graded choir program in a church.

**MUS 279 - Church Music Practicum**  
Prerequisite: Permission of the instructor  
This course is designed to provide supervised experience in the various areas of church music through directed study, practice, observation, and other supervised experiences. Emphasis is placed on designing, implementing, and documenting a practicum project related to a particular area of church music. Upon completion, the student should be able to produce documentation that demonstrates the scope of the project.

**NAS - Nursing Assistant**

**NAS 111 - Fundamentals of Long-Term Care**  
Co-Requisite: NAS 112, NAS 115, and COM 100 or higher  
This course provides the student with necessary theory and laboratory experiences for the development of skills required to qualify as a long-term care nursing assistant. Emphasis is placed on the acquisition of skills in communication, observation, safety, mobility/body mechanics, personal and restorative care, and infection control necessary to care for patients and clients of all ages. Upon completion of this course, the student will be able to produce documentation that demonstrates the scope of the project.

**NAS 112 - Fundamentals of Long-Term Care Clinical**  
Co-Requisite: NAS 111, NAS 115, and COM 100 or higher  
This course is designed for students applying knowledge and skills needed to perform basic nursing care safely and efficiently in various supervised health care settings. Emphasis is placed on safety, therapeutic communication, infection control, critical thinking, and proper documentation. Upon completion of the course, the student will demonstrate beginning competency in the delivery of care to patients and clients in various health care settings.

**NAS 113 - Fundamentals of Home Health Care**  
Prerequisite: NAS 111, NAS 112, NAS 115, and COM 100 or higher  
Co-Requisite: NAS 114  
This course provides the student with necessary theory and laboratory experiences for the development of skills required to qualify as a home health aide. Emphasis is placed on the acquisition of skills in communication, observation, mobility, personal care and infection control necessary to care for the home-bound client of all ages. Upon completion of this course, the student will be able to apply concepts and skills in areas required by the Omnibus Budget Reconciliation Act (OBRA). (Laboratory Required)

**NAS 114 - Fundamentals of Home Health Care Clinical**  
Prerequisite: NAS 111, NAS 112, NAS 115, and COM 100 or higher  
Co-Requisite: NAS 113  
This course is designed for students applying knowledge and skills needed to perform basic nursing care safely and efficiently in a supervised home health care clinical setting. Emphasis is placed on application of knowledge, attitudes, and skills needed for the home health care aide. (Clinical is required.) Upon completion, the student will demonstrate beginning competency in care of the client in the home care setting.

**NAS 115 - CPR and Basic First Aid**  
This course is designed to help the student feel more confident and act appropriately in emergency situations. Emphasis is placed on providing the student with theoretical concepts to develop skills in basic first aid and cardiopulmonary resuscitation. Upon completion, which includes specific competencies in basic life support, the student will receive appropriate course completion documentation.

**NUR - Nursing**

**NUR 102 - Fundamentals of Nursing**  
Prerequisite: Acceptance into Practical Nursing or Associate Degree Nursing Program  
Co-Requisite: NUR 103, NUR 104, BIO 201, and MTH 116 or higher for PN Track and MTH 100 or higher for AD Track  
This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and theories basic to the art and science of nursing. The role of the nurse as a member of the health care team is emphasized. Students are introduced to the concepts of client needs, safety, communication, teaching/learning, critical thinking, ethical/legal, cultural diversity, nursing history, and the program’s philosophy of nursing. Additionally, this course introduces psychomotor nursing skills needed to assist individuals in meeting basic human needs. Skills necessary for maintaining microbial, physical, and psychological safety are introduced along
with skills needed in therapeutic interventions. At the conclusion of this course, the student should demonstrate competency in performing basic nursing skills for individuals with common health alterations.

NUR 103 - Health Assessment 1 Hour
**Prerequisite:** Acceptance into Practical Nursing or Associate Degree Nursing Program
**Co-Requisite:** NUR 102, NUR 104, BIO 201, and MTH 116 or higher for PN Track and MTH 100 or higher for AD Track
This course is designed to provide students the opportunity to learn and practice history taking and physical examination skills with individuals of all ages, with emphasis on the adult. The focus is on symptom analysis along with physical, psychosocial, and growth and development assessments. Upon completion of this course, the students should be able to utilize critical thinking skills in identifying health alterations, formulating nursing diagnoses and documenting findings appropriate to nursing.

NUR 104 - Introduction to Pharmacology 1 Hour
**Prerequisite:** Acceptance into Practical Nursing or Associate Degree Nursing Program
**Co-Requisite:** NUR 102, NUR 103, BIO 201 and MTH 116 or higher for PN Track and MTH 100 or higher for AD Track
This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. This course introduces students to basic principles of pharmacology and the knowledge necessary to safely administer medication. Course content includes legal implications, pharmacokinetics, pharmacodynamics, calculations of drug dosages, medication administration, and an overview of drug classifications. Upon completion of this course, the student should be able to calculate and administer medications.

NUR 105 - Adult Nursing 8 Hours
**Prerequisite:** BIO 201, NUR 102, NUR 103, NUR 104, and MTH 116 or higher for PN Track and MTH 100 or higher for AD Track
**Co-Requisite:** ENG 101, BIO 202, and NUR 106
This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Emphasis is placed on providing care to individuals undergoing surgery; fluid and electrolyte imbalance; and common alterations in respiratory, musculoskeletal, gastrointestinal, cardiovascular, endocrine, and integumentary systems. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 106 - Maternal and Child Nursing 5 Hours
**Prerequisite:** BIO 201, NUR 102, NUR 103, NUR 104, and MTH 116 or higher for PN Track and MTH 100 or higher for AD Track
**Co-Requisite:** ENG 101, BIO 202, and NUR 105
This course focuses on the role of the nurse in meeting the physiological, psychosocial, cultural, and developmental needs of the maternal and child client. Course content includes antepartal, intrapartal, and postpartal care; complications of pregnancy; newborn care; human growth and development; pediatric care; and selected pediatric alterations. Nutrition, pharmacology, cultural diversity, use of technology, communication, anatomy and physiology review, medical terminology, critical thinking, and application of the nursing process are integrated throughout this course. Upon completion of this course, the student should be able to provide and manage for maternal and pediatric clients in a variety of settings.

NUR 107 - Adult/Child Nursing 8 Hours
**Prerequisite:** BIO 201, BIO 202, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 116 or higher, and ENG 101
**Co-Requisite:** NUR 108 and NUR 109
This course provides students with opportunities to develop competencies necessary to meet the needs of individuals throughout the life span in a safe, legal, and ethical manner using the nursing process in a variety of settings. Emphasis is placed on providing care to individuals experiencing complex alterations in sensory/perceptual reproductive, endocrine, genitourinary, neurological, immune, cardiovascular, and lower gastrointestinal systems. Additional instruction is provided for care for clients experiencing burns, cancer, and emergent conditions. Nutrition, pharmacology, therapeutic communication, community, cultural diversity, health promotion, error prevention, critical thinking, and impacts on maternal and child clients are integrated throughout the course.

NUR 108 - Psychosocial Nursing 3 Hours
**Prerequisite:** BIO 201, BIO 202, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 116 or higher, and ENG 101
**Co-Requisite:** NUR 107 and NUR 109
This course is designed to provide an overview of psychosocial adaptation and coping concepts used when caring for clients with acute and chronic alterations in mental health in a variety of settings. Topics include therapeutic communication skills, normal and abnormal behaviors, treatment modalities, and developmental needs. Upon completion of this course, the student should demonstrate the ability to assist clients in maintaining psychosocial integrity through the use of the nursing process.
NUR 109 - Role Transition for the Practical Nurse  
**Prerequisite:** BIO 201, BIO 202, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 116 or higher, and ENG 101  
**Co-Requisite:** NUR 107 and NUR 108  
This course provides the student with opportunities to gain knowledge and skills necessary to transition from student to practicing nurse. Content includes a discussion of current issues in health care, practical nursing leadership and management, professional practice issues, and transition into the workplace. Emphasis is placed on NCLEX-PN test-taking skills, computer-assisted simulations, and practice tests, development of a prescriptive plan for remediation, and review of selective content, specific to the practice of practical nursing.

NUR 200 – LPN Role Transition to Associate Degree Nurse (RN)  
**Prerequisite:** MTH 100 or higher, BIO 201, BIO 202, and ENG 101 and acceptance to the nursing program  
This course focuses on application of nursing science to assist the licensed practical nurse (LPN) transitioning into the role of the associate degree nurse (ADN). Emphasis in the course is placed on evidence-based clinical decision-making and nursing care provided in a family and community context for a variety of health alterations across the life span. Upon successful completion of the course, students will be able to progress into the ADN program. Sixteen (16) non-traditional credits will be awarded after successful completion of the course.

NUR 201 - Nursing through the Lifespan I  
**Prerequisite:** Two-Year Track: BIO 201, BIO 202, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 100 or higher, and ENG 101. Mobility Track: MTH 100 or higher, BIO 201, BIO 202, BIO 203, BIO 101, and NUR 200 (if applicable)  
**Co-Requisite:** PSY 200 and BIO 220  
This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care in a variety of settings to clients who are experiencing selected alterations in gastrointestinal, reproductive, sensory, and endocrine systems. Additional instruction is provided for oncology, mental health, teaching/learning concepts, and advanced dosage calculations. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 202 - Nursing through the Lifespan II  
**Prerequisite:** Two-Year Track: BIO 201, BIO 202, BIO 220, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 100 or higher, and ENG 101. Mobility Track: MTH 100 or higher, BIO 201, BIO 202, BIO 220, BIO 101, NUR 200 (if applicable), NUR 201, and PSY 200  
**Co-Requisite:** SPH 106 or higher and PSY 210  
This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, hematologic, immune, and genitourinary systems in a variety of settings. Additional instruction is provided for psychiatric disorders and high-risk obstetrics. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 203 - Nursing through the Lifespan III  
**Prerequisite:** Two-Year Track: BIO 201, BIO 202, BIO 220, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 100 or higher, and ENG 101. Mobility Track: MTH 100 or higher, BIO 201, BIO 202, BIO 220, BIO 101, NUR 200 (if applicable), NUR 201, NUR 202, SPH 106 or higher, PSY 200, and PSY 210  
**Co-Requisite:** NUR 204  
This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, respiratory, and neurological systems in a variety of settings. Additional instruction is provided to care for selected mental health disorders, selected emergencies, multiple organ dysfunction syndrome, and related disorders. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

NUR 204 - Role Transition for the Registered Nurse  
**Prerequisite:** Two-Year Track: BIO 201, BIO 202, BIO 220, NUR 102, NUR 103, NUR 104, NUR 105, NUR 106, MTH 100 or higher, and ENG 101. Mobility Track: MTH 100 or higher, BIO 201, BIO 202, BIO 220, BIO 101, NUR 200 (if applicable), NUR 201, NUR 202, NUR 203, SPH 106 or higher, PSY 200, and PSY 210  
**Co-Requisite:** NUR 203  
This course provides the student with the opportunity to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided to prepare for the NCLEX-RN. Preceptor experience is required.
OAD - Office Administration

OAD 101 - Beginning Keyboarding  3 Hours:  3T
Prerequisite:  RDG 085 or higher placement
This course is designed to enable the student to use the touch method of keyboarding through classroom instruction and outside lab. Emphasis is on speed and accuracy in keying alphabetic, symbol, and numeric information using a keyboard. Upon completion, the student should be able to demonstrate proper technique and an acceptable rate of speed and accuracy as defined by the course syllabus, in the production of basic business documents such as memoranda, letters, and reports.

OAD 103 - Intermediate Keyboarding  3 Hours:  3T
Prerequisite:  OAD 101
This course is designed to assist the student in increasing speed and accuracy using the touch method of keyboarding through classroom instruction and lab exercises. Emphasis is on the production of business documents such as memoranda, letters, reports, tables, and outlines from unarranged rough draft to acceptable format. Upon completion, the student should be able to demonstrate proficiency and an acceptable rate of speed and accuracy, as defined by the course syllabus, in the production of business documents. This is a CORE course.

OAD 125 - Word Processing  3 Hours:  3T
Prerequisite:  OAD 101
This course is designed to provide the student with basic word processing skills through classroom instruction and outside lab. Emphasis is on the utilization of software features to create, edit, and print common office documents. Upon completion, the student should be able to demonstrate the ability to use industry-standard software to generate appropriately formatted, accurate, and attractive business documents such as memoranda, letters, and reports. This is a CORE course.

OAD 126 - Advanced Word Processing  3 Hours:  3T
Prerequisite:  OAD 125/CIS 196A
This course is designed to increase student proficiency using advanced word processing functions. Emphasis is on the use of industry-standard software to maximize productivity. Upon completion, the student should be able to demonstrate the ability to generate complex documents such as forms, newsletters, and multi-page documents.

OAD 131 - Business English  3 Hours:  3T
Prerequisite:  RDG 085 or higher placement
This course is designed to develop the student’s ability to use proper English. Emphasis is on grammar, spelling, vocabulary, punctuation, word usage, word division, and proofreading. Upon completion, the student should be able to communicate effectively.

OAD 133 – Business Communications  3 Hours:  3T
This course is designed to provide the student with skills necessary to communicate effectively. Emphasis is on the application of communication principles to produce clear, correct, logically-organized business communications. Upon completion, the student should be able to demonstrate effective communication techniques in written, oral, and nonverbal communications.

OAD 137 - Computerized Financial Record Keeping  3 Hours:  3T
Prerequisite:  MTH 100 or MTH 116
This course is designed to provide the student with skill in using the microcomputer to enter financial data through classroom instruction and outside lab. Emphasis is on the use of appropriate software in the preparation of journals, financial statements, and selected payroll records. Upon completion, the student will be able to demonstrate the ability to record financial data using a microcomputer system.

OAD 138 - Records/Information Management  3 Hours:  3T
Prerequisite:  RDG 085 or higher placement
This course is designed to give the student knowledge about managing office records and information. Emphasis is on basic filing procedures, methods, systems, supplies, equipment, and modern technology used in the creation, protection, and disposition of records stored in a variety of forms. Upon completion, the student should be able to perform basic filing procedures. This is a CORE course.

OAD 200 - Machine Transcription  3 Hours:  3T
Prerequisite:  OAD 103, BIO 120, and BIO 150
This course is designed to develop marketable skills in transcribing various forms of dictated material through classroom instruction. Emphasis is on the use of microcomputers and a commercial word processing package. Upon completion, the student should be able to accurately transcribe documents from dictated recordings.
OAD 218 - Office Procedures
This course is designed to develop an awareness of the responsibilities and opportunities of the office professional through classroom instruction. Emphasis is on current operating functions, practices and procedures, work habits, attitudes, oral and written communications, and professionalism. Upon completion, the student should be able to demonstrate the ability to effectively function in an office support role.

OAD 219 – Accounting Concepts and Applications
This course is continuing study of OAD 136 Advanced Financial Record Keeping. Emphasis is on accounting procedures in accounts receivable, depreciation on long-term assets, merchandising inventory, partnerships, corporations, and statement analysis. This course also implements accounting principles through business applications.

OAD 230 - Computerized Desktop Publishing
Prerequisite: OAD 101
This course is designed to introduce the student to the elements and techniques of page design, layout, and typography through classroom instruction and lab exercises. Emphasis is on the use of current commercial desktop publishing software, graphic tools, and electronic input/output devices to design and print high-quality publications such as newsletters, brochures, catalogs, forms, and flyers. Upon completion, the student should be able to utilize proper layout and design concepts in the production of attractive desktop published documents.

OAD 231 - Office Applications
Prerequisite: OAD 101 or CIS 146
This course is designed to provide the student with a foundation in the use of computerized equipment and application software as tools in the performance of a variety of office tasks through classroom instruction and lab exercises. Emphasis is on the role of the office professional in the selection and application of appropriate technology to the specific task or combination of tasks. Upon completion, the student should be able to demonstrate proficiency in the selection of appropriate computerized tools to complete designated tasks.

OAD 232 - The Computerized Office
Prerequisite: OAD 125/CIS 196A OR OAD 231/CIS 196C OR CIS 146
This course is designed to develop skill in the use of integrated software through classroom instruction and lab exercises. Emphasis is on the use of computerized equipment, software, and communications technology. Upon completion, the student should be able to satisfactorily perform a variety of office tasks using current technology.

OAD 242 - Office Internship
Prerequisite: Permission of instructor, RDG 085 or ENG 093 or higher placement, and 75% of program completion
This course is designed to provide the student with an opportunity to work in an office environment. Emphasis is on the efficient and accurate performance of job tasks. Upon completion, the student should be able to demonstrate successful performance of skills required in an office support position.

OAD 243 - Spreadsheet Applications
Prerequisite: MTH 100 or MTH 116 or higher placement
This course is designed to provide the student with a firm foundation in the use of computerized equipment and appropriate software in performing spreadsheet tasks through classroom instruction and lab exercises. Emphasis is on spreadsheet terminology and design, common formulas, and proper file and disk management procedures. Upon completion, the student should be able to use spreadsheet features to design, format, and graph effective spreadsheets.

OAD 244 - Database Applications
Prerequisite: OAD 101
This course is designed to provide the student with an understanding of the concepts of database management through classroom instruction and lab exercises. Emphasis is on the use of database software for business applications. Upon completion, the student should be able to create and manipulate data files and format output such as documents and reports.

OAD 246 – Office Graphics and Presentations
This course is designed to provide the student with a foundation in the use of the computer and appropriate application software in the production of business slides and presentations through classroom instruction and lab exercises. Emphasis is on available software tools, presentation options and design, as well as such presentation considerations as the make-up of the target audience. Upon completion, the student should be able to demonstrate the ability to design and produce a business presentation.
## ORI - Orientation

**ORI 101 - Orientation to College**  
1 Hour  
This course aids new students in their transition to the institution, exposes new students to the broad educational opportunities of the institution, and integrates new students into the life of the institution. To encourage success in college, Shelton State requires all full-time students to complete Orientation to College, ORI 101, during the first semester of enrollment; part-time students are required to complete ORI 101 prior to the completion of the first twelve (12) credit hours. Students enrolled in career technical programs must complete ORI 101 prior to completion of the first nineteen (19) credit hours. Exceptions to these guidelines include students who hold an associate degree or higher, who have successfully completed an equivalent course at another institution, who transfer with at least twelve (12) credit hours with a grade point average of 2.0 or higher, who are transient, or who have been admitted to Practical Nursing or Associate Degree Nursing.

## PED - Physical Education

**PED 101 - Slimnastics (Beginning)**  
1 Hour  
This course provides an individualized approach to physical fitness, wellness, and other health-related factors. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, the student should be able to set up and implement an individualized physical fitness program. Lecture will be provided with this activity.

**PED 102 - Slimnastics (Intermediate)**  
1 Hour  
This course is an intermediate-level slimnastics class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems, nutrition, and weight control. Upon completion, the student should be able to implement and evaluate an individualized physical fitness program. Lecture will be provided with this activity.

**PED 103 - Weight Training (Beginning)**  
1 Hour  
This course introduces the basics of weight training. Emphasis is placed on developing muscular strength, muscular endurance, and muscle tone. Upon completion, the student should be able to establish and implement a personal weight training program. Lecture will be provided with this activity.

**PED 104 - Weight Training (Intermediate)**  
1 Hour  
This course covers advanced levels of weight training. Emphasis is placed on meeting individual training goals and addressing weight training needs and interests. Upon completion, the student should be able to establish and implement an individualized advanced weight training program. Lecture will be provided with this activity.

**PED 105 - Personal Fitness**  
1 Hour  
This course is designed to provide the student with information allowing the student to participate in a personally developed fitness program. Topics include cardiovascular health, strength, muscular endurance, flexibility, and body composition.

**PED 106 – Aerobics**  
1 Hour  
This course introduces a program of cardiovascular fitness involving continuous, rhythmic exercise. Emphasis is placed on developing cardiovascular efficiency, strength, flexibility, and safety precautions. Upon completion, the student should be able to select and implement a rhythmic aerobic exercise program. Lecture will be provided with this activity.

**PED 107 - Aerobics Dance (Beginning)**  
1 Hour  
This course introduces the fundamentals of step and dance aerobics. Emphasis is placed on basic stepping up; basic choreographed dance patterns; cardiovascular fitness; and upper body, floor, and abdominal exercises. Upon completion, the student should be able to participate in basic dance aerobics. Lecture will be provided with this activity.

**PED 108 - Aerobics Dance (Intermediate)**  
1 Hour  
This course provides a continuation of step aerobics. Emphasis is placed on a wide variety of choreographed step and dance patterns; cardiovascular fitness; and upper body, abdominal, and floor exercises. Upon completion, the student should be able to participate in and design an aerobics routine. Lecture with this activity.

**PED 109 - Jogging**  
1 Hour  
This course covers the basic concepts involved in safely and effectively improving cardiovascular fitness. Emphasis is placed on walking, jogging, or running as a means of achieving fitness. Upon completion, the student should be able to understand and appreciate the benefits derived from these activities.

**PED 118 - General Conditioning (Beginning)**  
1 Hour  
This course provides an individualized approach to general conditioning utilizing the five major components. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness and conditioning programs. Upon completion,
the student should be able to set up and implement an individualized physical fitness and conditioning program. Lecture will be provided with this activity.

PED 119 - General Conditioning (Intermediate)  1 Hour
This course is an intermediate-level fitness and conditioning program class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems. Upon completion, the student should be able to implement and evaluate an individualized physical fitness and conditioning program. Lecture will be provided with this activity.

PED 133 - Tennis (Beginning)  1 Hour
This course emphasizes the fundamentals of tennis. Topics include basic strokes, rules, etiquette, and court play. Upon completion, the student should be able to play recreational tennis.

PED 134 - Tennis (Intermediate)  1 Hour
Prerequisite: PED 133 or permission of instructor.
This course emphasizes the refinement of playing skills. Topics include continuing the development of fundamentals and learning advanced serves, strokes, pace, and strategies in singles and doubles play. Upon completion, the student should be able to play competitive tennis.

PED 150 - Tai Chi  1 Hour
Tai chi is an ancient martial art form through which the student will improve flexibility, balance, strength, and mental discipline. By learning the slow and deliberate movements of tai chi, the student will also develop proper breathing and relaxation techniques and enhance joint flexibility. Tai chi skills are a combination of stretching, isometrics, and isotonic movements in combination with diaphragmatic breathing and postural auxiliary services. Upon completion, the student should be able to demonstrate the procedures of tai chi.

PED 155 – Self-Defense  1 Hour
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 nonphysical means of self-defense. Upon completion, the student should be able to demonstrate basic self-defense techniques of a physical and non-physical nature.

PED 157 - Fencing (Beginning)  1 Hour
This course introduces the fundamentals of fencing. Emphasis is placed on grip, stance, and establishment of good techniques for attacks and parries. Upon completion, the student should be able to perform elementary foil techniques and demonstrate the basic skills of fencing.

PED 158 - Fencing (Intermediate)  1 Hour
Prerequisite: PED 157.
This course covers more advanced fencing techniques. Topics include advanced foil techniques and elementary sabre techniques. Upon completion, the student should be able to participate in competitive fencing.

PED 159 - Kickboxing  1 Hour
This course develops cardiovascular muscular endurance and flexibility through the skill and techniques of kickboxing. The student will learn basic conditioning skills and fundamentals of kickboxing that will enhance total fitness ability.

PED 171 - Basketball (Beginning)  1 Hour
This course covers the fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, the student should be able to participate in recreational basketball.

PED 172 - Basketball (Intermediate)  1 Hour
Prerequisite: PED 171 or permission of instructor.
This course covers more advanced basketball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, the student should be able to play basketball at a competitive level.

PED 180 - Flag Football  1 Hour
This course introduces the fundamentals and rules of flag football. Emphasis is placed on proper techniques and strategies for playing in game situations. Upon completion, the student should be able to participate in recreational flag football.
PED 181 - Baseball (Beginning) 1 Hour
This course covers the fundamentals of baseball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, the student should be able to participate in recreational baseball.

PED 182 - Baseball (Intermediate) 1 Hour
This course covers more advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, the student should be able to play baseball at a competitive level.

PED 186 - Softball (Beginning) 1 Hour
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, the student should be able to participate in recreational softball.

PED 187 - Softball (Intermediate) 1 Hour
Prerequisite: PED 186 or permission of instructor
This course presents advanced skills and competitive practice in softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, the student should be able to participate in competitive softball.

PED 216 - Sports Officiating 3 Hours
This course surveys the basic rules and mechanics of officiating a variety of sports, including both team and individual sports. In addition to class work, the student will receive at least three hours of practical experience in officiating.

PED 223 - Methods of Instruction 3 Hours
Prerequisite: RDG 085 or ENG 093 or higher placement
This course provides instruction for the student on specialized teaching techniques in becoming a wellness exercise instructor. The student will learn the basics of instruction in the area of aerobic types of exercise and weight training. This course will enable the student to instruct as well as supervise these types of programs. The student will learn basic anatomy and exercise physiology as it applies to the movement of the body during exercise. This course will address and explain safety and teaching methods for the exercise instructor in the development of a comprehensive fitness program.

PED 245 - Cycling 1 Hour
This course is designed to promote physical fitness through cycling. Emphasis is placed on selection and auxiliary services of the bicycle, gear shifting, pedaling techniques, safety procedures, and conditioning exercises necessary for cycling. Upon completion, the student should be able to demonstrate safe handling of a bicycle for recreational use.

PED 248 - Varsity Basketball I 1 Hour
Prerequisite: As required by program
This course offers advanced fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to participate in competitive basketball.

PED 249 - Varsity Basketball II 1 Hour
Prerequisite: As required by program
This course offers advanced fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to participate in competitive basketball.

PED 250 - Varsity Basketball III 1 Hour
Prerequisite: As required by program
This course offers advanced fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to participate in competitive basketball.

PED 251 - Varsity Basketball 1 Hour
Prerequisite: Permission of instructor
This course covers advanced fundamentals of basketball. Emphasis is placed on skill development, knowledge of the rules, and basic game strategy. Upon completion, the student should be able to participate in competitive basketball.
PED 252 - Varsity Baseball  1 Hour
Prerequisite: Permission of instructor.
This course covers advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, the student should be able to play baseball at a competitive level.

PED 254 - Varsity Softball  1 Hour
Prerequisite: Permission of instructor
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. Upon completion, the student should be able to play competitive softball.

PED 257 - Varsity Cheerleading  1 Hour
Prerequisite: Permission of instructor.
This course covers advanced co-ed cheerleading techniques. Emphasis is placed on refining skills and improving all areas related to co-ed cheerleading including knowledge of safety techniques, partner stunts, tumbling, basket tosses, pyramids, motions, physical conditioning, and mental preparation. Upon completion, the student should be able to participate in a competitive program at the university level.

PED 258 - Varsity Volleyball  1 Hour
Prerequisite: Permission of instructor
This course covers more advanced volleyball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. Upon completion, the student should be able to participate in competitive volleyball.

PED 261 - Varsity Baseball II  1 Hour
Prerequisite: As required by program
This course covers advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to play baseball at a competitive level.

PED 262 - Varsity Baseball III  1 Hour
Prerequisite: As required by program
This course covers advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to play baseball at a competitive level.

PED 263 - Varsity Baseball IV  1 Hour
Prerequisite: As required by program
This course covers advanced baseball techniques. Emphasis is placed on refining skills and developing more advanced strategies and techniques. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to play baseball at a competitive level.

PED 264 - Varsity Softball II  1 Hour
Prerequisite: As required by program
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to play competitive softball.

PED 265 - Varsity Softball III  1 Hour
Prerequisite: As required by program
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to play competitive softball.

PED 266 - Varsity Softball IV  1 Hour
Prerequisite: As required by program
This course introduces the fundamental skills and rules of softball. Emphasis is placed on proper techniques and strategies for playing softball. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion, students should be able to play competitive softball.
PED 280 - Varsity Cheerleading II
Prerequisite: As required by program
This course covers advanced co-ed cheerleading techniques. Emphasis is placed on refining skills and improving all areas related to co-ed cheerleading including knowledge of safety techniques, partner stunts, tumbling, basket tosses, pyramids, motions, physical conditioning, and mental preparation. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion of this program, students should be able to participate in a competitive program at the university level.

PED 281 - Varsity Cheerleading III
Prerequisite: As required by program
This course covers advanced co-ed cheerleading techniques. Emphasis is placed on refining skills and improving all areas related to co-ed cheerleading including knowledge of safety techniques, partner stunts, tumbling, basket tosses, pyramids, motions, physical conditioning, and mental preparation. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion of this program, students should be able to participate in a competitive program at the university level.

PED 282 - Varsity Cheerleading IV
Prerequisite: As required by program
This course covers advanced co-ed cheerleading techniques. Emphasis is placed on refining skills and improving all areas related to co-ed cheerleading including knowledge of safety techniques, partner stunts, tumbling, basket tosses, pyramids, motions, physical conditioning, and mental preparation. This course builds upon previous instruction and provides additional opportunities to develop skills. Upon completion of this program, students should be able to participate in a competitive program at the university level.

PED 295 - Practicum in Physical Education
Prerequisite: PED 223
This course is designed to provide field experience in observation and assistance in the student’s area of specialization. The student will work under the supervision of trained physical education teachers.

PHL - Philosophy

PHL 106 - Introduction to Philosophy
Prerequisite: RDG 085 or and ENG 093 or higher placement
This course is an introduction to the basic concepts of philosophy. The literary and conceptual approach of the course is balanced with emphasis on approaches to ethical decision-making. The student should have an understanding of major philosophical ideas in an historical survey from the early Greeks to the modern era.

PHL 206 - Ethics and Society
Prerequisite: RDG 085 and ENG 093 or higher placement
This course involves the study of ethical issues confronting individuals in the course of daily living. The focus is on the fundamental questions of right and wrong, of human rights, and of conflicting obligations. The student should be able to understand and be prepared to make decisions in life regarding ethical issues.

PHS - Physical Science

PHS 111 - Physical Science I
Prerequisite: RDG 085 and ENG 092 or higher placement
This course provides the non-technical student with an introduction to the basic principles of astronomy and geology. Laboratory is required.

PHS 112 - Physical Science II
Prerequisite: RDG 085 and ENG 092 or higher placement
This course provides the non-technical student with an introduction to the basic principle of chemistry and physics. Laboratory is required.

PHY - Physics

PHY 201 - General Physics I - Trig Based
Prerequisite: A letter grade of C or higher in MTH 113 or higher math placement, RDG 085 and ENG 092 or higher placement
This course is designed to cover general physics at a level that assumes previous exposure to college algebra and basic trigonometry. Specific topics include mechanics, properties of matter and energy, thermodynamics, and periodic motion. Laboratory is required.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHY 202</td>
<td>General Physics II-Trig Based</td>
<td>4</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>A letter grade of C or higher in PHY 201</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>This course is designed to cover general physics using college algebra and basic trigonometry. Specific topics include wave motion, sound, light optics, electrostatics, circuits, magnetism, and modern physics. Laboratory is required.</td>
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<tr>
<td>PHY 213</td>
<td>General Physics with Cal I</td>
<td>4</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>A letter grade of C or higher in MTH 125, RDG 085, and ENG 092 or higher placement</td>
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<tr>
<td>Description</td>
<td>This course provides a calculus-based treatment of the principle subdivisions of classical physics: mechanics and energy, including thermodynamics. Laboratory is required.</td>
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<tr>
<td>PHY 214</td>
<td>General Physics with Cal II</td>
<td>4</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>A letter grade of C or higher in PHY 213</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>This course provides a calculus-based study in classical physics. Topics included are simple harmonic motion, waves, sound, light, optics, electricity, and magnetism. Laboratory is required.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>POL 200</td>
<td>Introduction to Political Science</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>RDG 085 or higher placement</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>This course is an introduction to the field of political science through examination of the fundamental principles, concepts, and methods of the discipline as well as the basic political processes and institutions of organized political systems. Topics include approaches to political science, research methodology, the state government, law, ideology, organized political influences, governmental bureaucracy, problems in political democracy, and international politics. Upon completion, the student should be able to identify, describe, define, analyze, and explain relationships among the basic principles and concepts of political science and political processes and institutions of contemporary political systems.</td>
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</tr>
<tr>
<td>POL 211</td>
<td>American National Government</td>
<td>3</td>
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<tr>
<td>Prerequisite</td>
<td>RDG 085 or higher placement</td>
<td></td>
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<tr>
<td>Description</td>
<td>This course surveys the background, constitutional principles, organization, and operation of the American political system. Topics include the U. S. Constitution, federalism, civil liberties, civil rights, political parties, interest groups, political campaigns, voting behavior, elections, the presidency, bureaucracy, Congress, and the justice system. Upon completion, the student should be able to identify and explain relationships among the basic elements of American government and function as more informed participants of the American political system.</td>
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</tr>
<tr>
<td>POL 236</td>
<td>Survey of International Relations</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>RDG 085 or higher placement</td>
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<tr>
<td>Description</td>
<td>This course is a survey of the basic forces affecting international relations. Topics include bases of national power, balance of power, causes of war, the international political economy, international law, international organization, and possible futures of international relations. Upon completion, the student should be able to identify and discuss relevant terms and concepts, as well as identify, analyze, evaluate, and discuss the primary factors influencing the international relations of selected states.</td>
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<tr>
<th>Course Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td>PRL 101</td>
<td>Introduction to Paralegal Study</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>RDG 085 or higher placement</td>
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</tr>
<tr>
<td>Description</td>
<td>This course introduces the paralegal profession and the legal system. Topics include an overview of major areas of legal practice, ethics, legal analysis and research, professional development including certification and employment, and related topics. This is a CORE course.</td>
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<tr>
<td>PRL 102</td>
<td>Basic Research and Writing</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>RDG 085 or higher placement</td>
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<tr>
<td>Description</td>
<td>This course introduces the techniques of legal research and writing. Emphasis is placed on locating, analyzing, applying, and validating sources of law. Topics include legal research, legal writing, proper citation, and electronic research. This is a CORE course.</td>
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<tr>
<td>PRL 103</td>
<td>Advanced Legal Research and Writing</td>
<td>3</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>PRL 102.</td>
<td></td>
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<tr>
<td>Description</td>
<td>This course requires the student to apply research, analysis, and writing techniques to substantive legal issues. Assignments include preparation of legal memoranda and other documents as well as the more efficient use of electronic research methods.</td>
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</tbody>
</table>
PRL 160 - Criminal Law and Procedure  
**Prerequisite:** RDG 085 or higher placement  
This course introduces substantive and procedural criminal law including elements of state and federal crimes, defenses, constitutional issues, pre-trial process, and other related topics. This is a CORE course.

PRL 220 - Corporate Law  
**Prerequisite:** RDG 085 or higher placement  
This course covers the legal aspects of creating, operating, and maintaining a business and includes a review of commonly used forms of business organization.

PRL 230 - Domestic Law  
**Prerequisite:** RDG 085 or higher placement  
This course covers laws governing domestic relations. Topics include marriage, separation, divorce, child custody, support, property division, adoption, domestic violence, and other related topics. This is a CORE course.

PRL 240 - Wills, Trusts, and Estates  
**Prerequisite:** RDG 085 or higher placement  
This course covers wills, trusts, and inheritance. Topics include types of wills, the law of intestacy (inheritance), probating estates, and alternatives to probate. The course also covers trusts, medical directives, and associated litigation. This is a CORE course.

PRL 250 - Bankruptcy and Collections  
**Prerequisite:** RDG 085 or higher placement  
This course provides an overview of laws of bankruptcy and the rights of creditors and debtors. Topics include bankruptcy procedures and estate management, attachment, claim and delivery, repossession, foreclosure, collection, garnishment, and post-judgment collection procedure.

PRL 262 - Civil Law and Procedures  
**Prerequisite:** RDG 085 or higher placement  
This course examines the Federal Rules of Civil Procedure, the Alabama Rules of Civil Procedure, and trial procedure. This is a CORE course.

PSY - Psychology  

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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY 106</td>
<td>Career Exploration</td>
<td>1 Hour</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>This course is designed for the student to explore potential career fields. This course includes an assessment through testing of strengths and weaknesses, general information about careers and job skills, value and decision making techniques, and a career research.</td>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>PSY 107</td>
<td>Study Skills</td>
<td>1 Hour</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>In this course, emphasis is placed on the skills of “how to study.” The course introduces the student to effective techniques for listening in class, note taking, preparation for test taking, and an overall system of successful study.</td>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PSY 108</td>
<td>Stress Management</td>
<td>2 Hours</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>This course is designed to improve the stress management skills of the student. Stress management techniques will be described and evaluated, and the relationship between stress and disease will be discussed.</td>
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<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>PSY 200</td>
<td>General Psychology</td>
<td>3 Hours</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>This course is a survey of behavior with emphasis upon psychological processes. This course includes the biological basis for behavior, thinking, emotion, motivation, and the nature and development of personality.</td>
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<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>PSY 207</td>
<td>Psychology of Adjustment</td>
<td>3 Hours</td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> RDG 085 and ENG 092 or higher placement</td>
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<tr>
<td>This course provides an understanding of the basic principles of mental health and an understanding of the individual modes of behavior.</td>
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</table>
# PSY 210 - Human Growth and Development

**Prerequisite:** RDG 085 and ENG 092 or higher placement

This course is the study of the psychological, social, and physical factors affecting human behavior from conception to death.

# PSY 220 - Human Sexuality

**Prerequisite:** RDG 085 and ENG 092 or higher placement

This course is a comprehensive and integrated approach to human sexuality emphasizing biological, psychological, social, and emotional aspects.

# PSY 230 - Abnormal Psychology

**Prerequisite:** PSY 200.

This course is a survey of abnormal behavior and its social and biological origins. The anxiety-related disorders, psychoses, personality disorders, and mental deficiencies will be covered.

# PSY 260 – Statistics for Social Sciences

**Prerequisite:** RDG 085 and ENG 092 or higher placement

This course is an introduction to the basic statistical concepts, measures, and techniques used in social science research and report writing. It includes both descriptive and inferential statistics.

# PSY 276 – Human Relations

**Prerequisite:** RDG 085 or ENG 093

This course focuses on readings, inter-and intrapersonal experiences, individual testing, employer visits, and open discussions. Its goal is to assist the student in making a successful transition from classroom to the world of work.

# RDG - Reading

## RDG 085 - Developmental Reading III

**Prerequisite:** RDG 085 placement score

This course is designed to assist the student whose placement test scores indicate difficulty with decoding skills, comprehension, vocabulary, and study skills.

## RDG 114 - Critical Reading for College

**Prerequisite:** RDG 085 or RDG 114 placement score

This course is designed to enhance critical reading skills. Topics include vocabulary enrichment, reading flexibility, metacognitive strategies, and advanced comprehension skills, including analysis and evaluation. Upon completion, the student should be able to demonstrate comprehension and analysis and respond effectively to material across disciplines.

# REC - Recreation

## REC 231 - Health and Fitness Club Management

**Prerequisite:** RDG 085 or higher placement

This course is designed to introduce the student to all facets of proper management of a modern fitness facility.

## REC 232 - Health and Fitness Club Internship

**Prerequisite:** REC 231

This course covers the elements of advertising and sales promotion in the business environment. Topics include advertising and sales promotion appeals, selection of media, use of advertising and sales promotion as a marketing tool, and means of testing effectiveness. Upon completion, the student should be able to demonstrate an understanding of the concepts covered through application.

# REL - Religious Studies

## REL 100 - History of World Religions

**Prerequisite:** RDG 085 and ENG 093 or higher placement

This course is designed to acquaint the student with the beliefs and practices of the major contemporary religions of the world. This includes the religions of Africa, the Orient, and the western world. Upon completion, the student should have an understanding of the history and origins of the various religions in the world.

## REL 151 - Survey of the Old Testament

**Prerequisite:** RDG 085 and ENG 093 or higher placement

This course is an introduction to the content of the Old Testament with emphasis on the historical context and contemporary theological and cultural significance of the Old Testament. Upon completion, the student should have an understanding of the significance of the Old Testament writings.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>REL 152</td>
<td>Survey of the New Testament</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 and ENG 093 or higher placement</td>
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<tr>
<td>This course is a survey of the books of the New Testament with special attention focused on the historical and geographical setting. Upon completion, the student should have an understanding of the books of the New Testament and the cultural and historical events associated with these writings.</td>
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<th>Course Title</th>
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<tbody>
<tr>
<td>RLS 101</td>
<td>Real Estate Principles</td>
<td>4 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>RDG 085 or higher placement</td>
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<tr>
<td>This is an introductory real estate course providing the necessary terminology, background, and understanding of real estate principles. Topics include history of property ownership, real estate finance, real estate law, and the mechanics of listing and closing the sale. This course is designed to assist those preparing for the real estate salesman’s licensing examination in Alabama.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RPT 210</td>
<td>Clinical Practice I</td>
<td>2 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>BIO 201, BIO 202, ENG 101, MTH 100, RPT 256, and acceptance into the Respiratory Therapy Program</td>
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<tr>
<td>Co-Requisite:</td>
<td>RPT 211, RPT 212, RPT 213, RPT 214, and CIS 146</td>
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</tr>
<tr>
<td>This clinical course provides for initial hospital orientation and development of general patient assessment and communication skills required for safe and effective patient care. Emphasis is placed upon application of classroom and laboratory experiences within the clinical environment. Upon completion, students should demonstrate adequate psychomotor skills and cognitive abilities necessary for initial patient contact and safe and effective performance of basic respiratory care procedures. This is a CORE course.</td>
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<th>Course Title</th>
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<tbody>
<tr>
<td>RPT 211</td>
<td>Introduction to Respiratory Care</td>
<td>2 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>BIO 201, BIO 202, ENG 101, MTH 100, RPT 256, and acceptance into the Respiratory Therapy Program</td>
<td></td>
</tr>
<tr>
<td>Co-Requisite:</td>
<td>RPT 210, RPT 212, RPT 213, RPT 214, and CIS 146</td>
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<tr>
<td>This course is designed to acquaint the student with responsibilities of the Respiratory Care Practitioner (RCP) as a member of the health care team. Areas of emphasis include history of the profession, credentialing mechanism, licensure, medical ethics, communication skills, basic medical terminology, and patient assessment. Upon completion, students should be able to demonstrate effective communication skills, proper use of aseptic technique, deference to appropriate professional ethics and behavior, and be able to perform basic patient assessment. This is a CORE course.</td>
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<th>Credits</th>
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<tbody>
<tr>
<td>RPT 212</td>
<td>Fundamentals of Respiratory Care I</td>
<td>4 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>BIO 201, BIO 202, ENG 101, MTH 100, RPT 256, and acceptance into the Respiratory Therapy Program</td>
<td></td>
</tr>
<tr>
<td>Co-Requisite:</td>
<td>RPT 210, RPT 211, RPT 213, RPT 214, and CIS 146</td>
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</tr>
<tr>
<td>This is a fundamental course which presents the scientific basis for respiratory care procedures and application of basic chemistry and physics as related to compressed gases and respiratory care equipment operation. Experimental laboratory is required and emphasis includes design, functional characteristics, and operation of commonly encountered respiratory care equipment; use of medical gases and applied chemistry, physics, and mathematics. Upon completion, the student should be able to demonstrate an adequate knowledge base concerning function and troubleshooting of respiratory care equipment and concepts of applied physics, chemistry, and mathematics. This is a CORE course.</td>
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<th>Credits</th>
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<tbody>
<tr>
<td>RPT 213</td>
<td>Anatomy and Physiology for the RCP</td>
<td>3 Hours</td>
</tr>
<tr>
<td>Prerequisite:</td>
<td>BIO 201, BIO 202, ENG 101, MTH 100, RPT 256, and acceptance into the Respiratory Therapy Program</td>
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<tr>
<td>Co-Requisite:</td>
<td>RPT 210, RPT 211, RPT 212, RPT 214, and CIS 146</td>
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<tr>
<td>This course provides detailed lecture and audio-visual presentations which concentrate on the cardiopulmonary and renal systems. Emphasis is placed on structure, function, and physiology of the cardiopulmonary and renal systems and the role each plays in the auxiliary services of homeostasis. Upon completion, the student should be able to demonstrate adequate knowledge of the structure, function, and physiology of the cardiopulmonary and renal systems. This is a CORE course.</td>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>RPT 214</td>
<td>Pharmacology for the RCP</td>
<td>2 Hours</td>
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<tr>
<td>Prerequisite:</td>
<td>BIO 201, BIO 202, ENG 101, MTH 100, RPT 256, and acceptance into the Respiratory Therapy Program</td>
<td></td>
</tr>
<tr>
<td>Co-Requisite:</td>
<td>RPT 210, RPT 211, RPT 212, RPT 213, and CIS 146</td>
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<tr>
<td>This course is a detailed study of drugs encountered in respiratory care practice and the function of the automatic nervous system. Areas of emphasis include determination of drug dosage, applied mathematics, clinical pharmacology, indications, hazards, intended actions, and side-effects of agents used in respiratory care. Upon completion, the student should be able to complete a dosage calculation test with 90% proficiency as well as demonstrate an adequate understanding of the clinical pharmacology of respiratory care drugs, and the general principles of pharmacology. This is a CORE course.</td>
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</tbody>
</table>
RPT 220 - Clinical Practice II  
**Prerequisite:** RPT 210, RPT 211, RPT 212, RPT 213, RPT 214, and RPT 256  
**Co-Requisite:** PSY 200, RPT 221, RPT 222, RPT 223, and RPT 234.  
This course is a continuation of clinical practice and allows the student to further integrate classroom and laboratory instruction into the practice of respiratory care. Areas of emphasis include bedside patient assessment techniques, airway management; hyperinflation therapy; protocol implementation; development of patient care plans; oxygen, humidity, and aerosol administration; and an introduction to management of the mechanical ventilation of the adult. Upon completion, the student should be able to demonstrate appropriate psychomotor skills and cognitive abilities necessary to successfully function as primary caregiver for routine respiratory care procedures. This is a CORE course.

RPT 221 - Pathology for the RCP  
**Prerequisite:** RPT 210, RPT 211, RPT 212 RPT 213, RPT 214, and RPT 256  
**Co-Requisite:** PSY 200, RPT 220, RPT 222, RPT 223, and RPT 234.  
This course is a survey of commonly encountered diseases and disorders affecting the function of the cardiopulmonary system and the clinical manifestations and treatment rationales as related to respiratory care practice. Practical laboratory is required, and course emphasis is placed upon the application of sound diagnostic techniques in the gathering of data in support of diagnosis of specific disease entities as well as progression of pathological changes in cardiopulmonary function. Upon completion, the student should be able to demonstrate the ability to gather appropriate information from various sources in support of the diagnosis of specific cardiopulmonary diseases as well as an adequate understanding of cardiopulmonary pathology.

RPT 222 - Fundamentals of Respiratory Care II  
**Prerequisite:** RPT 210, RPT 211, RPT 212, RPT 213, RPT 214, and RPT 256  
**Co-Requisite:** PSY 200, RPT 220, RPT 221, RPT 223, and RPT 234.  
This course continues to present the fundamental scientific basis for selected respiratory care procedures. Experimental laboratory is required, and areas of emphasis include therapeutic techniques utilized in bronchial hygiene, hyperinflation therapy, mechanical ventilation of the adult, manual resuscitation equipment, the equipment utilized in bedside assessment, and mechanical ventilation. Upon completion, the student should be able to demonstrate the cognitive abilities and psychomotor skills required to perform the procedures presented. This is a CORE course.

RPT 223 - Acid Base Regulation and ABG Analysis  
**Prerequisite:** RPT 210, RPT 211, RPT 212, RPT 213, RPT 214 and RPT 256  
**Co-Requisite:** PSY 200, RPT 220, RPT 221, RPT 222, and RPT 234.  
This course provides the student with lecture and audiovisual presentation of material essential to the understanding of acid/base physiology and arterial blood gas interpretation. Emphasis is placed upon Arterial Blood Gas (ABG) sampling technique, quality assurance, basic chemistry as related to acid/base balance, evaluation of oxygen transport, and the role of the respiratory and renal systems in Auxiliary Services of homeostasis. Upon completion, the student should be able to demonstrate appropriate psychomotor skills and cognitive abilities for the fundamental concepts of acid/base balance and regulation of homeostasis by the respiratory and renal systems. This is a CORE course.

RPT 230 - Clinical Practice II  
**Prerequisite:** RPT 220, RPT 221, RPT 222, RPT 223, RPT 234 and RPT 256  
**Co-Requisite:** RPT 232, RPT 233, RPT 242 and SPH 116  
This is the third course in the clinical sequence and is designed to allow the student to function in the role of primary caregiver. Emphasis is placed upon mastery of basic respiratory care procedures, administration of aerosol drugs, and care of the patient receiving mechanical ventilation. Upon completion, the student should be able to demonstrate the psychomotor skills and cognitive abilities necessary to function safely and effectively in the role of primary caregiver. This is a CORE course.

RPT 232 - Diagnostic Procedures for the RCP  
**Prerequisite:** RPT 220, RPT 221, RPT 222, RPT 223 and RPT 234  
**Co-Requisite:** RPT 230, RPT 233, RPT 242 and SPH 116  
This course is designed to present the value of various procedures as aids to diagnosis in cardiopulmonary disease. Course emphasis is placed upon procedures such as complete pulmonary function testing, bronchoscopy, cardiac diagnostic procedures, and ventilation/perfusion studies. Upon completion, the student should be able to demonstrate the psychomotor and cognitive abilities necessary to perform routine diagnostic procedures. This is a CORE course.

RPT 233 - Special Procedures for the RCP  
**Prerequisite:** RPT 220, RPT 221, RPT 222, RPT 223 and RPT 234  
**Co-Requisite:** RPT 230, RPT 232, RPT 242 and SPH 116  
This course identifies and presents special procedures and medical specialties for various tasks required of the RCP, while functioning in an assistive role to the physician. Course emphasis is placed upon phlebotomy, bronchoscopy, hemodynamic
assessment, and advanced cardiopulmonary monitoring techniques. Upon completion, the student should be able to demonstrate cognitive abilities and understand the psychomotor skills necessary to perform assistive functions during the various procedures presented. This is a CORE course.

RPT 234 - Mechanical Ventilation for the RCP  
**Prerequisite:** RPT 210, RPT 211, RPT 212, RPT 213, RPT 214 and RPT 256  
**Co-Requisite:** PSY 200, RPT 220, RPT 221, RPT 222 and RPT 223  
This course continues and expands the presentation of material concerning mechanical ventilation as previously introduced including indications, modification, and discontinuance of mechanical ventilation. Laboratory is required, and course emphasis is placed upon the application of scientific principles to the clinical use of various modes of mechanical ventilation. Upon completion the student should be able to demonstrate the cognitive and psychomotor skills required to effectively institute and maintain various methods of mechanical ventilation. This is a CORE course.

RPT 240 - Clinical Practice IV  
**Prerequisite:** RPT 230, RPT 232, RPT 233, RPT 234 and RPT 242  
**Co-Requisite:** RPT 241, RPT 243, RPT 244, RPT 266 and RPT 268  
This course, the last in the required clinical sequence, provides opportunities for the student to further refine clinical skills. Course emphasis is placed upon critical care, neonatal mechanical ventilation, home care, and discharge planning. Upon completion, the student should be able to demonstrate the cognitive and psychomotor skills required to function in the role of advanced respiratory care practitioner. This is a CORE course.

RPT 241 - Rehabilitation and Home Care for the RCP  
**Prerequisite:** RPT 220, RPT 221, RPT 222, RPT 223 and RPT 234  
**Co-Requisite:** RPT 230, RPT 232, RPT 233 and SPH 116  
This course presents special considerations which apply to rehabilitation and home care of the patient with cardiopulmonary disorders. Emphasis is placed upon the role of the RCP within the home care medical community and modification of techniques and procedures necessary for effective pulmonary management. Upon completion, the student should be able to demonstrate an understanding of discharge planning and disease management protocols as applied to rehabilitation and the continuation of effective respiratory care outside of an acute care facility. This is a CORE course.

RPT 242 - Perinatal/Pediatric Respiratory Care  
**Prerequisite:** RPT 220, RPT 221, RPT 222, RPT 223 and RPT 234  
**Co-Requisite:** RPT 230, RPT 232, RPT 233 and SPH 116  
This course presents the unique requirement for appropriate delivery of respiratory care to the neonatal and pediatric patient. Laboratory is required, and course emphasis is placed upon a detailed outline of fetal lung development, fetal circulation, neonatal cardiopulmonary disorders, and specialized equipment and techniques, as well as general considerations of provision of care to neonatal and pediatric patients. Upon completion, the student should be able to demonstrate the cognitive and psychomotor skills required for safe and effective delivery of respiratory care to the neonatal and pediatric patient. This is a CORE course.

RPT 243 - Computer Applications for the RCP  
**Prerequisite:** RPT 230, RPT 232, RPT 233, and RPT 242  
**Co-Requisite:** RPT 240, RPT 241, RPT 244, RPT 266 and RPT 268  
This course is designed to allow the student practice in utilizing computer-assisted clinical simulation software as well as allow for a general program review in preparation for credentialing examinations. Emphasis is placed on development of critical thinking skills, specific to the discipline, and development of computer literacy. Upon completion, students should be able to demonstrate computer literacy and satisfactory performance on nationally standardized comprehensive self-assessment examinations. This is a CORE course.

RPT 244 - Critical Care Considerations for the RCP  
**Prerequisite:** RPT 230, RPT 232, RPT 233, and RPT 242  
**Co-Requisite:** RPT 240, RPT 241, RPT 243, RPT 266 and RPT 268  
This course provides for continued discussion concerning the monitoring and Auxiliary Services of patients who are treated in the critical care area of an acute care hospital. Course emphasis is placed upon advanced monitoring and assessment techniques employed in the treatment of the critical care patient. Upon completion, the student should be able to demonstrate increased psychomotor and cognitive abilities as pertaining to critical care. This is a CORE course.

RPT 256 - Writings and Research for the RCP  
**Prerequisite:** MTH 100 and ENG 101  
This course is provided to allow for independent research on a topic of special interest within the field of respiratory care. A
written narrative of research activities or a literature-based research paper is required. Upon completion, students should be able to effectively communicate in written narrative form the results of independent study.

**RPT 266 - Seminar in Respiratory Medicine I**  
1 Hour  
**Prerequisite:** RPT 230, RPT 232, RPT 233, and RPT 242  
**Co-Requisite:** RPT 240, RPT 241, RPT 243, RPT 244 and RPT 268  
This course is a series of physician and/or guest lecturers designed to present topics of special interest to the student or practitioner. Emphasis is placed upon current medical practice within the field of pulmonary medicine and cardiology. Upon completion, the student should be able to demonstrate an increased knowledge base concerning the topics of special interest presented.

**RPT 268 - Writing and Research for the RCP II**  
1 Hour  
**Prerequisite:** RPT 230, RPT 232, RPT 233, and RPT 242  
**Co-Requisite:** RPT 240, RPT 241, RPT 243, RPT 244 and RPT 266  
This course allows for independent research on a topic of special interest within the field of respiratory care. A written narrative of research activities or a literature-based research paper is required. Upon completion, students should be able to effectively communicate in written narrative form the results of independent study.

**SOC - Sociology**

**SOC 200 - Introduction to Sociology**  
3 Hours  
**Prerequisite:** RDG 085 and ENG 092 or higher placement  
This course is an introduction to the vocabulary, concepts, and theory of sociological perspectives of human behavior.

**SOC 210 - Social Problems**  
3 Hours  
**Prerequisite:** SOC 200  
This course examines the social and cultural aspects, influences, incidences, and characteristics of current social problems in light of sociological theory and research.

**SOC 247 - Marriage and the Family**  
3 Hours  
**Prerequisite:** SOC 200  
This course is a study of family structures and families in a modern society. It covers preparation for marriage, as well as sociological, psychological, biological, and financial factors relevant to success in marriage and family life.

**SOC 296 - Directed Studies in Sociology**  
1-3 Hours  
**Prerequisite:** SOC 200  
This course provides the student with opportunities to have “hands-on” experience with research methods used in the behavioral sciences or to complete directed readings under faculty supervision.

**SPA - Spanish**

**SPA 101 - Introductory Spanish I**  
4 Hours  
**Prerequisite:** RDG 085 or higher placement  
This course provides an introduction to Spanish. Topics include the development of basic communication skills and the acquisition of basic knowledge of the cultures of Spanish-speaking areas.

**SPA 102 - Introductory Spanish II**  
4 Hours  
**Prerequisite:** A letter grade of C or higher in SPA 101  
This course includes the continuing development of basic communication skills and the acquisition of basic knowledge of the cultures of Spanish-speaking areas.

**SPH - Speech**

**SPC 100 - Fundamentals of Speech Communication**  
1 Hour  
**Prerequisite:** RDG 085 or higher placement  
This performance course includes the study of the principles of human communication: intrapersonal, interpersonal, and public. It surveys communication theory and provides practical application.

**SPH 106 - Fundamentals of Oral Communication**  
3 Hours  
**Prerequisite:** RDG 085 and ENG 092 or higher placement  
This is a performance course including the principles of human communication: intrapersonal, interpersonal, and public. This course surveys current communication theory and provides practical application.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>SPH 107</td>
<td>Fundamentals of Public Speaking</td>
<td>3 Hours</td>
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<tr>
<td>Prerequisite: RDG 085 and ENG 093 or higher placement</td>
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<td>This course explores principles of audience and environment analysis, as well as the actual planning, rehearsing, and presenting of formal speeches to specific audiences. Historical foundations, communication theories, and student performances are emphasized.</td>
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<tr>
<td>SPH 108</td>
<td>Voice and Diction</td>
<td>3 Hours</td>
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<tr>
<td>Prerequisite: RDG 085 or higher placement</td>
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<td>This course provides training for improvement in the use of the speaking voice. Attention is focused on range, flexibility, clarity of articulation, and standards of pronunciation with individual help in the correction of faulty speech habits. A study of the International Phonetic Alphabet is included.</td>
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<tr>
<td>SPH 116</td>
<td>Introduction to Interpersonal Communication</td>
<td>3 Hours</td>
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<tr>
<td>Prerequisite: RDG 085 or higher placement</td>
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<tr>
<td>Co-Requisite: ENG 101</td>
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<td></td>
<td>This course is an introduction to the basic principles of interpersonal communication.</td>
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<tr>
<td>SPH 123</td>
<td>Forensics Workshop I</td>
<td>1-3 Hours</td>
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<tr>
<td>Prerequisite: Permission of Instructor</td>
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<td></td>
<td>This course offers experience in speech activities such as debate, discussion, oral interpretation, extemporaneous speaking, and original oratory. The student is required to participate in scheduled intercollegiate speech tournaments.</td>
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<tr>
<td>SPH 124</td>
<td>Forensics Workshop II</td>
<td>1-3 Hours</td>
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<tr>
<td>Prerequisite: Permission of Instructor</td>
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<tr>
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<td>This course offers experience in speech activities such as debate, discussion, oral interpretation, extemporaneous speaking, and original oratory. The student is required to participate in scheduled intercollegiate speech tournaments.</td>
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<tr>
<td>SPH 125</td>
<td>Forensics Workshop III</td>
<td>1-3 Hours</td>
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<tr>
<td>Prerequisite: Permission of Instructor</td>
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<td></td>
<td>This course offers experience in speech activities such as debate, discussion, oral interpretation, extemporaneous speaking, and original oratory. The student is required to participate in scheduled intercollegiate speech tournaments.</td>
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<tr>
<td>SPH 206</td>
<td>Oral Interpretation</td>
<td>3 Hours</td>
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<tr>
<td>Prerequisite: RDG 085 or higher placement</td>
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<tr>
<td>Co-Requisite: ENG 101</td>
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<td>This course is designed to help students develop specific skills in the analysis and oral interpretation of poetry, prose, and drama. It includes a study of the elements of oral communication such as imagery, structure, and dramatic timing. Opportunity is given for public/classroom performance of literature.</td>
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<tr>
<td>SPH 217</td>
<td>Elements of Persuasion</td>
<td>3 Hours</td>
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<tr>
<td>Prerequisite: SPH 107</td>
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<td>This course is an advanced study and practice of the elements of persuasive speaking begun in SPH 106 and SPH 107.</td>
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<tr>
<td>SPH 227</td>
<td>Argumentation and Debate</td>
<td>3 Hours</td>
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<tr>
<td>Prerequisite: SPH 107</td>
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<td>This course introduces argumentation and debate and methods of bringing reasoned discourse to bear on personal and social problems. It includes investigations into the various types of debates with emphasis on the use of evidence, logic, responsibility of the advocate, and the composition of language for oral controversy.</td>
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<tr>
<th>THR - Theatre</th>
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<tr>
<td>THR 113 - Theatre Workshop I</td>
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<tr>
<td>Prerequisite: THR 113</td>
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<tr>
<td>This is the first in a six-course sequence providing practical experience in the production and performance of a dramatic presentation with assignments in scenery, lighting, props, choreography, sound, costumes, make-up, publicity, acting, directing, and other aspects of theatre production.</td>
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<tr>
<td>THR 114 - Theatre Workshop II</td>
</tr>
<tr>
<td>Prerequisite: THR 113</td>
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<tr>
<td>This course is a continuation of THR 113.</td>
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</table>
THR 120 - Theatre Appreciation 3 Hours
Prerequisite: None
This course is designed to increase appreciation of contemporary theater. Emphasis is given to the theater as an art form through the study of history, theory of drama, and the contributions to modern media. This course places emphasis on playwright, actor, director, designer, and technician to modern media. Attendance at theater productions may be required.

THR 131 - Acting Techniques I 3 Hours
Prerequisite: RDG 085 or higher placement
This is the first of a two-course sequence in which the student will focus on the development of the body and voice as the performing instruments in acting. Emphasis is placed on pantomime, improvisation, acting exercises, and building characterizations in short acting scenes.

THR 132 - Acting Techniques II 3 Hours
Prerequisite: THR 131
This course is a continuation of THR 131.

THR 213 - Theatre Workshop IV 2 Hours
This course is a continuation of THR 113 and THR 114.

THR 214 - Theatre Workshop V 2 Hours
Prerequisite: THR 213
This course is a continuation of THR 113 and THR 114.

THR 216 - Theatrical Make-Up 2 Hours
This course is a study of the materials and techniques of theatrical make-up.

THR 236 - Stagecraft 3 Hours
This course is a study of the principles, techniques, and materials in theatrical scenery and lighting.

THR 241 - Voice and Speech for the Performer 3 Hours
Prerequisite: RDG 085 or higher placement
This is a beginning course in the effective and healthy use of the vocal instrument for performance. It is designed to approach both the physical and mental processes of vocal production and includes the following: learning a physical/vocal warm-up, dialect reduction, articulation, class performance, and written exams.

THR 281 - Stage Movement I 3 Hours
This is the first in a two-course sequence offering the student a basic introduction to movement for the stage for those interested in acting or dance. The course also includes consideration of role development through movement.

THR 282 - Stage Movement II 3 Hours
Prerequisite: THR 281
This course is a continuation of THR 281.

THR 296 - Directed Studies in Theatre 2 Hours
Prerequisite: Permission of instructor
This course deals with problems in theater and art management. Problems may be arranged in conjunction with other disciplines in the Fine Arts.
WDT - Welding

WDT 102 – Smaw Fillet/OFC  
6 Hours; 2T, 4L
This course provides the student with instruction and opportunities to develop skills with Shielded Metal Arc Welding (SMAW) processes. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides the student with the skills and knowledge necessary for the safe operation of oxy-fuel cutting.

WDT 104 – Smaw Fillet/PAC/CAC  
6 Hours; 2T, 4L
This course provides students with instruction and opportunities to develop skills with Shielded Metal Arc Welding (SMAW processes. Emphasis is placed on safety, welding terminology, equipment identification, set-up and operation, and related information in the SMAW process. This course also covers the rules of basic safety and identification of shop equipment and provides students with skills and knowledge necessary for the safe operation of carbon arc cutting and plasma arc cutting.

WDT 106 – Shielded Metal Arc Welding Groove  
6 Hours; 2T, 4L
This course provides students with instruction and opportunities to develop skills on joint design, joint preparation, and fit-up of groove welds in accordance with applicable welding codes. Emphasis is placed on safe operation, joint design, joint preparation, and fit-up.

WDT 110 - Industrial Blueprint Reading  
3 Hours; 3T
Prerequisite: Students must be enrolled in a basic welding course or have taken a basic welding course at Shelton State or have proof of completion at another institution. Also, it is highly recommended that the students take a technical math (for example: MTH 116) before they take the Industrial Blueprint Reading class.
This course provides students with the understanding and fundamentals of industrial blueprint reading. Emphasis is placed on reading and interpreting lines, views, dimensions, weld joint configurations, and weld symbols. Upon completion, the student should be able to interpret welding symbols and blueprints as they apply to welding and fabrication. This is a CORE course.

WDT 126 – Gas Metal Arc/Flux Cored Arc Welding  
6 Hours; 2T, 4L
This course introduces the student to the gas metal arc and flexes cored arc welding processes and allows them to develop skills. Emphasis is placed on safe operating practices, handling and storage of compressed gasses, process principles, component identification, various welding techniques and base and filler metal identification.

WDT 180 - Special Topics  
3 Hours; 1T, 6L
This course allows the student to plan, execute, and present results of individual projects in welding. Emphasis is placed on enhancing skill attainment in the welding field. Upon completion, the student should be able to demonstrate and apply competencies identified and agreed upon between the student and instructor.

WDT 181 - Special Topics Lab  
3 Hours; 6L
This course provides specialized instruction in various areas related to the welding industry. Emphasis is placed on meeting students’ needs.

WDT 218 – Certification  
3 Hours; 1T, 2L
This course is designed to provide the student with the knowledge needed to perform welds using the prescribed welding process. Emphasis is placed on the welding test joints in accordance with the prescribed welding code. Upon completion, students should be able to pass industry standard welding test in accordance with various applicable welding code requirements.

WDT 221 - Pipefitting and Fabrication  
3 Hours; 1T, 4L
This course provides the student with skills and practices necessary for fabricating pipe plans using butt-welded fittings. Emphasis is placed on butt-welded fittings to include 45 and 90 degree angles, flanges, reducers, and tees. Upon completion, the student should be able to fit butt-welded fittings as well as cut and fabricate tees, laterals, and assorted angles.

WDT 232 – Gas Tungsten Arc Welding  
6 Hours; 2T, 4L
This course provides students with knowledge and the opportunity to develop skills for gas tungsten arc welds using ferrous and/or non-ferrous metals, according to applicable welding codes. Topics include safe operating practices, equipment identification and set-up, correct selection of tungsten type, polarity, shielding gas and filler metals.
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<th>Hours</th>
<th>Description</th>
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<tbody>
<tr>
<td>WDT 258</td>
<td>Certification Lab</td>
<td>3 Hours</td>
<td>Students must have completed WDT 108, WDT 109, WDT 122 and WDT 123 at Shelton State or have proof of completion at another institution. This course is designed to provide the student with the skills needed to perform welds using the prescribed welding process. Emphasis is placed on welding test joints in accordance with the prescribed welding code. Upon completion, the student should be able to pass an industry standard welding test in accordance with D1.1 code requirements.</td>
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<tr>
<td>WDT 260</td>
<td>Smaw Carbon Pipe</td>
<td>6 Hours</td>
<td>This course introduces students to the practices and allows opportunities to develop skills for welding carbon steel pipe using the shielded metal arc weld (SMAW) process. Emphasis is placed on safety, pipe positions, electrode selection, joint geometry, joint preparation, and fit-up.</td>
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<tr>
<td>WDT 292</td>
<td>Cooperative Education</td>
<td>3 Hours</td>
<td>This course constitutes a series wherein the student works on a part-time basis in a job directly related to welding. In this course, the employer evaluates the student’s productivity, and the student submits a descriptive report of work experiences. Upon completion, the student should demonstrate skills learned in an employment setting.</td>
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**WKO – Workplace Skills Preparation**

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<tr>
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<tbody>
<tr>
<td>WKO 107</td>
<td>Workplace Skills Preparation</td>
<td>1 Hour</td>
<td>This course utilizes computer-based instructional modules designed to access and develop skills necessary for workplace success. The instructional modules in the course include applied mathematics, reading for information, and locating information. Upon completion of this course, the student should be assessed to determine if their knowledge of the subject areas has improved.</td>
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</table>