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| **ACA-111\_1997SU** | **College Student Success** | **ACA-111** |

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| CIS Course ID | S13509 |
| Effective Term | Summer 1997 |
| End Term |  |

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| Class | 1 | Lab | 0 | Clinical | 0 | Work | 0 | Credit | 1 |

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

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| State Prerequisites | None |

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| State Corequisites | None |

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| **ACA-122\_2014SU** | **College Transfer Success** | **ACA-122** |

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| CIS Course ID | S24018 |
| Effective Term | Summer 2014 |
| End Term |  |

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| Class | 0 | Lab | 2 | Clinical | 0 | Work | 0 | Credit | 1 |

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| This course provides information and strategies necessary to develop clear academic and professional goals beyond the community college experience. Topics include the CAA, college policies and culture, career exploration, gathering information on senior institutions, strategic planning, critical thinking, and communications skills for a successful academic transition. Upon completion, students should be able to develop an academic plan to transition successfully to senior institutions. |

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| Competencies |
| 1. Develop a strategic plan for completing community college academic goals, including certificates, diplomas, and/or associate degrees.2. Develop a strategic plan for transferring to a university and preparing for a new career.3. Identify the rights and responsibilities of transfer students under the Comprehensive Articulation Agreement (CAA), including Universal General Education Transfer Component (UGETC) designated courses, the Transfer Assured Admissions Policy (TAAP), the CAA appeals process, and university tuition surcharge.4. Evaluate learning strategies, including note-taking, test-taking, information processing, time management, and memorization techniques, and identify strategies for improvement.5. Identify essential college resources, including financial aid, advising, registration, tutoring, library services, computer labs, and counseling services and recognize the importance of these resources on student success.6. Identify essential college policies and procedures, including academic integrity such as avoiding plagiarism; calculating a GPA, and maintaining satisfactory academic progress for financial aid eligibility and/or good academic standing. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| **ATR-211\_1997SU** | **Robot Programming** | **ATR-211** |

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| CIS Course ID  | S20705 |
| Effective Term  | Summer 1997 |
| End Term  | Summer 1999 |

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

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

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| State Prerequisites | Take One: CIS-110 or CIS-111 |

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| State Corequisites | None |

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| **CIS-110\_2006SP** | **Introduction to Computers** | **CIS-110** |

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| CIS Course ID | S21058 |
| Effective Term | Spring 2006 |
| End Term |  |

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

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| This course introduces computer concepts, including fundamental functions and operations of the computer. Topics include identification of hardware components, basic computer operations, security issues, and use of software applications. Upon completion, students should be able to demonstrate an understanding of the role and function of computers and use the computer to solve problems. |

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| Competencies |
| 1. Identify the basic elements required in a computer system.2. Produce electronic documents using various software applications.3. Illustrate the role of the computer for personal and professional uses. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| BPR-111\_2013FA | Print Reading | BPR-111 |

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| CIS Course ID  | S23466 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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| Class  | 1 | Lab  | 2 | Clinical  | 0 | Work  | 0 | Credit  | 2 |

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

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| Competencies |
| Student Learning Outcomes1. Interpret symbols, abbreviations, and line types.2. Identify and describe types of projection and use of views.3. Draw freehand sketches.4. Calculate measurements of features.5. Identify and interpret dimensioning and tolerancing. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| COM-231\_1997SU | Public Speaking | COM-231 |

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| CIS Course ID  | S12601 |
| Effective Term  | Summer 1997 |
| End Term  |  |

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| Class  | 3 | Lab  | 0 | Clinical  | 0 | Work  | 0 | Credit  | 3 |

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| This course provides instruction and experience in preparation and delivery of speeches within a public setting and group discussion. Emphasis is placed on research, preparation, delivery, and evaluation of informative, persuasive, and special occasion public speaking. Upon completion, students should be able to prepare and deliver well-organized speeches and participate in group discussion with appropriate audiovisual support.  |

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| State Prerequisites | None |

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| State Corequisites | None |

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| ELC-112\_2013FA | DC/AC Electricity | ELC-112 |

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| CIS Course ID  | S23481 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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| Class  | 3 | Lab  | 6 | Clinical  | 0 | Work  | 0 | Credit  | 5 |

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| This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits. |

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| Competencies |
| ·Student Learning Outcomes1. Demonstrate safe practices and procedures with tools, materials, and industry accepted test equipment covered in the course.2. Demonstrate appropriate use of test equipment, evaluate circuit performance and apply appropriate troubleshooting techniques to electrical circuits.3. Construct and analyze series, parallel and combinations circuits using appropriate components.4. Use appropriate laws and formulas to perform circuit calculations.5. Interpret electrical schematics.6. Describe the characteristics of various power sources. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| ELC-117\_2013FA | Motors and Controls | ELC-117 |

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| CIS Course ID  | S23521 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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| Class  | 2 | Lab  | 6 | Clinical  | 0 | Work  | 0 | Credit  | 4 |

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

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| Competencies |
| Student Learning Outcomes1. Demonstrate safe practices and procedures with tools, materials and industry accepted test equipment covered in the course.2. Demonstrate appropriate use of test equipment, evaluate circuit performance and apply appropriate troubleshooting techniques to control circuits.3. Interpret and use ladder and wiring diagrams, symbols, and schematics.4. Demonstrate and describe the use of relays, contactors, motor starters and pilot devices in electrical control circuits.5. Describe principles and operations related to electrical control circuits.6. Describe the concepts of rotating electrical machinery. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| ELC-118\_1997SU | National Electrical Code | ELC-118 |

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| CIS Course ID  | S11926 |
| Effective Term  | Summer 1997 |
| End Term  |  |

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| Class  | 1 | Lab  | 2 | Clinical  | 0 | Work  | 0 | Credit  | 2 |

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| This course covers the use of the current National Electrical Code. Topics include the NEC history, wiring methods, overcurrent protection, materials, and other related topics. Upon completion, students should be able to effectively use the NEC. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| ELC-128\_2013FA | Intro to PLC | ELC-128 |

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| CIS Course ID  | S23522 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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

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| This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to understand basic PLC systems and create simple programs. |

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| Competencies |
| Student Learning Outcomes1. Identify and demonstrate safe practices and procedures with tools, materials and industry accepted test equipment covered in the course.2. List and describe the hardware components used in PLC systems.3. Utilize numbering systems as applied to PLCs.4. Demonstrate and describe the use of various PLC instruction sets.5. Create various simple PLC programs using the appropriate instruction set.6. Apply appropriate troubleshooting methods to PLCs. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| HYD-110\_2013FA | Hydraulics/Pneumatics I | HYD-110 |

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| CIS Course ID  | S23526 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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

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

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| Competencies |
| Student Learning Outcomes1. Identify and demonstrate safe practices and procedures with tools, materials and industry accepted test equipment covered in the course.2. Demonstrate appropriate use of test equipment, evaluate circuit performance and apply appropriate troubleshooting techniques to fluid power systems.3. Identify components of fluid power systems using symbols and schematics.4. Assemble a fluid power system.5. Calculate and demonstrate the basic physics of fluid mechanics. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| ISC-112\_2013FA | Industrial Safety | ISC-112 |

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| CIS Course ID  | S23527 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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| Class  | 2 | Lab  | 0 | Clinical  | 0 | Work  | 0 | Credit  | 2 |

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| This course introduces the principles of industrial safety. Emphasis is placed on industrial safety and OSHA regulations. Upon completion, students should be able to demonstrate knowledge of a safe working environment and OSHA compliance. |

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| Competencies |
| Student Learning Outcomes1. Describe and identify safety practices required to perform various job-related activities.2. Describe the application of OSHA procedures and requirements for compliance. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| MAT-121\_2020FA | Algebra/Trigonometry I | MAT-121 |

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| CIS Course ID  | S25429 |
| Effective Term  | Fall 2020 |
| End Term  |  |

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

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| This course provides an integrated approach to technology and the skills required to manipulate, display, and interpret mathematical functions and formulas used in problem solving. Topics include the properties of plane and solid geometry, area and volume, and basic proportion applications; simplification, evaluation, and solving of algebraic equations and inequalities and radical functions; complex numbers; right triangle trigonometry; and systems of equations. Upon completion, students will be able to demonstrate the ability to use mathematics and technology for problem-solving, analyzing and communicating results. |

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| Competencies |
| ·Student Learning Outcomes1. Use geometric principles to solve industrial application problems involving perimeter, area, and volume.2. Employ basic algebraic operations to simplify, evaluate, and solve proportions, radical and other algebraic functions, equations, and inequalities.3. Perform basic algebraic operations involving complex numbers.4. Solve applied problems using trigonometric principles involving right triangles.5. Solve applied problems using systems of equations involving two and three variables.6. Use technology to solve practical problems and communicate results. |

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| State Prerequisites | Take One Set:Set 1: DMA-010, DMA-020, DMA-030, DMA-040, DMA-050Set 2: DMA-025, DMA-040, DMA-050Set 3: DMA-025, DMA-045Set 4: DMA-010, DMA-020, DMA-030, DMA-045Set 5: MAT-003 Set 6: BSP-4003 |

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| State Corequisites | Take MAT-021 |

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| PHY-110\_1997SU | Conceptual Physics | PHY-110 |

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| CIS Course ID  | S12004 |
| Effective Term  | Summer 1997 |
| End Term  |  |

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| Class  | 3 | Lab  | 0 | Clinical  | 0 | Work  | 0 | Credit  | 3 |

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| This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied.  |

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| State Prerequisites | None |

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| State Corequisites | None |

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| MNT-110\_2013FA | Intro to Maint Procedures | MNT-110 |

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| CIS Course ID  | S23528 |
| Effective Term  | Fall 2013 |
| End Term  |  |

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

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| This course covers basic maintenance fundamentals for power transmission equipment. Topics include equipment inspection, lubrication, alignment, and other scheduled maintenance procedures. Upon completion, students should be able to demonstrate knowledge of accepted maintenance procedures and practices according to current industry standards. |

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| Competencies |
| Student Learning Outcomes1. Identify and demonstrate safe practices and procedures with tools, materials and industry accepted test equipment covered in the course.2. Identify and demonstrate use of hand tools.3. Identify grades of bolts and fasteners and demonstrate proper tightening techniques4. Describe the operation of and assemble mechanical power transmissions and systems.5. Identify bearings, seals, gaskets, and packing material and demonstrate appropriate assembly techniques.6. Perform preventative and predictive maintenance and mechanical troubleshooting. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| MNT-160\_2002FA | Industrial Fabrication | MNT-160 |

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| CIS Course ID  | S14234 |
| Effective Term  | Fall 2002 |
| End Term  |  |

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

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| This course covers the necessary techniques to fabricate and assemble basic items common in industrial environments. Emphasis is placed on students being able to create basic items such as frames, guards, supports, and other components commonly used in industry. Upon completion, students should be able to safely fabricate and assemble selected items within specifications. |

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| State Prerequisites | None |

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| State Corequisites | None |

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| WLD-112\_1997SU | Basic Welding Processes | WLD-112 |

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| CIS Course ID  | S10926 |
| Effective Term  | Summer 1997 |
| End Term  |  |

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

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| This course introduces basic welding and cutting. Emphasis is placed on beads applied with gases, mild steel fillers, and electrodes and the capillary action of solder. Upon completion, students should be able to set up welding and oxy-fuel equipment and perform welding, brazing, and soldering processes. |

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| State Prerequisites | None |

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| State Corequisites | None |