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| **AC Advanced Manufacturing IV** | **Course #: 1578** |

**Course Description:** This course allows students to apply knowledge of materials to the design for manufacturing necessary to bring a product to market. Students explore the business of manufacturing while creating work cells to process materials into products. Students design a prototype and then redesign with the goal of manufacturing the product. Students analyze and evaluate all aspects of the design and production process with an emphasis on lean, green manufacturing. Students pay special attention to the control systems integration, data acquisition, and quality control processes necessary for Six Sigma production.

**Notes:** Required Courses (No Sequence Required)

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| **WVEIS CODE** | **Course** |
| 1575 | AC Advanced Manufacturing I |
| 1576 | AC Advanced Manufacturing II |
| 1577 | AC Advanced Manufacturing III |
| 1578 | AC Advanced Manufacturing IV |

These courses align with Southern Regional Education Board (SREB) standards. You must receive training to access the curriculum for this Program of Study. For more information, logon to www.sreb.org

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| **Student Led Companies** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.01 | Use social media appropriately and effectively, in personal and professional situations. |  |
| 1578.02 | Exhibit flexibility and adaptability. |  |
| 1578.03 | Demonstrate leadership skills. |  |
| 1578.04 | Recognize others for their contributions. |  |
| 1578.05 | Demonstrate group process techniques. |  |
| 1578.06 | Organize work. |  |

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| **Application/Interview Structure** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.07 | Exhibit professional practices. |  |
| 1578.08 | Apply for employment. |  |
| 1578.09 | Demonstrate employability skills needed to keep a job. |  |
| 1578.10 | Demonstrate personal qualities appropriate to the work environment. |  |

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| **Formal Attendance System** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.11 | Exhibit responsibility. |  |
| 1578.12 | Explain the importance of satisfactory attendance to the overall operation of the business. |  |
| 1578.13 | Call in to notify the supervisor of unanticipated absences. |  |

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| **Drug Free Work Zone** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.14 | Identify healthy practices and behaviors that will maintain or improve the health of self. |  |
| 1578.15 | Ensure healthful working conditions. |  |
| 1578.16 | Identify why drug free work zones are needed to be a productive/safe company. |  |

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| **6S Environment** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.17 | Apply previous learning to situations where problems must be solved or decisions made quickly. |  |
| 1578.18 | Exhibit interest in making the organization more effective and productive. |  |
| 1578.19 | Identify why 6S is important to be an efficient and effective company. |  |

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| **Safe Work Areas** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.20 | Explain the necessity and benefits/disadvantages of organizational change. |  |
| 1578.21 | Identify ways to reduce or prevent injuries and illness. |  |
| 1578.22 | Identify efficient, effective, and ethical uses of technology in the workplace. |  |
| 1578.23 | Ensure safe working conditions. |  |
| 1578.24 | Demonstrate safe use of tools and equipment. |  |
| 1578.25 | Practice environmental conservation and safety. |  |

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| **Work Place Teams** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.26 | Participate in group or team discussions. |  |
| 1578.27 | Cooperate in a pleasant and polite manner with clients, coworkers, and supervisors. |  |
| 1578.28 | Explain the importance of teamwork to the overall operation of the business. |  |
| 1578.29 | Perform work tasks in a team. |  |
| 1578.30 | Look for ways to help others. |  |
| 1578.31 | Take directions willingly. |  |

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| **Project-Based Learning/Student Engagement** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.32 | Perform math operations using whole numbers, fractions, and percentages. |  |
| 1578.33 | Gather information. |  |
| 1578.34 | Provide clear documentation of assignments, goals, and timelines. |  |
| 1578.35 | Define the problem. |  |
| 1578.36 | Analyze the problem and identify the solution. |  |
| 1578.37 | Make recommendations. |  |

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| **Company Name and Handbook** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.38 | Identify the company’s mission and the individual employee’s contribution to that mission. |  |
| 1578.39 | Interpret organizational policies and procedures. |  |
| 1578.40 | Apply management techniques. |  |

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| **Company Meetings** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.41 | Engage in conversations with coworkers, supervisors, and clients. |  |
| 1578.42 | Use the knowledge of computer logic, operation systems, and basic troubleshooting techniques. |  |
| 1578.43 | Attend team meetings, focus on the topic/purpose, offer facts and ideas, and help others. |  |

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| **Onsite Business Reviews** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.44 | Interpret and comprehend technical and general interest in written material. |  |
| 1578.45 | Identify how the company functions within the broad world of business, industry, and service. |  |
| 1578.46 | Identify ways in which the individual employee represents the organization. |  |
| 1578.47 | Apply industry quality standards and practices. |  |

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| **Accountability** | | **Complete** |
| **Content Skill Sets** | | **Knowledge/**  **Performance** |
| 1578.48 | Identify aspects of owning or starting up a small business. |  |
| 1578.49 | Share information using a range of appropriate communications technologies. |  |
| 1578.50 | Explain the importance of using data to improve company productivity. |  |