Georgia CTAE

Introduction to Metals (2013)

Demonstrate employability skills required by business and industry AC-IM-1	1 **Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.** AC-IM-1.1
	2 **Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.** AC-IM-1.2
	3 **Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations** AC-IM-1.3
	4 **Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity** AC-IM-1.4
	5 **Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.** AC-IM-1.5
	6 **Present a professional image through appearance, behavior and language.** AC-IM-1.6
Explore the history of the machining, welding, and sheet-metal trade AC-IM-2	1 **Research and describe the history of the machining, welding, and sheet metal trade by utilizing technology, collaboration, and other sources** AC-IM-2.1
	2 **Describe the history of the machining, welding, and sheet-metal trade through group discussions and written summary or presentation.** AC-IM-2.2
Demonstrate knowledge and practice of metals safety. AC-IM-3	1 **Identify and explain the common hazards in machining, sheet metal, and welding.** AC-IM-3.1
	2 **Demonstrate basic knowledge of Occupational Safety and Health Administration (OSHA), and the regulations related to preventive measures for personal safety** AC-IM-3.2
	3 **Demonstrate the proper use and care of Personal Protection Equipment (PPE) used in machining, sheet metal, and welding.** AC-IM-3.3
	4 **Demonstrate the safe use of equipment in the metals laboratory.** AC-IM-3.4
De in	**Demonstrate knowledge of proper care, maintenance, and safe use of hand and power tools specific to the metals trade** AC-IM-4.1

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power tools specific to the trade AC-IM-4	2 **Demonstrate proficiency in the techniques of power and hand tools specific to the metals trade.** AC-IM-4.2
Demonstrate the ability to use measuring instruments specific to the metals trade. AC-IM-5	1 **Demonstrate proficiency in measuring work pieces with the English and metric system scales.** AC-IM-5.1 2 **Demonstrate proficiency in the use of measuring tools used in the metals trade including but not limited to fillet weld gauge, caliper, micrometer, tape measure, divider, protractor, angle finder, etc** AC-IM-5.2 3 **Demonstrate proficiency in the proper care, cleaning, and storage of measuring instruments.** AC-IM-5.3
Demonstrate and explain the ability to safely set up and operate basic equipment for welding and cutting specific to the metal trade AC-IM-6	1 **Identify and explain the use of oxyfuel cutting equipment.** AC-IM-6.1 2 **Properly set up oxyfuel equipment for acetylene and alternate fuel gases (i.e. propane).** AC-IM-6.2 3 **Safely perform basic cuts, straight lines, arches, and piercing holes using oxyfuel equipment** AC-IM-6.3 4 **Identify and explain the Shielded Metal Arc Welding (SMAW) process** AC-IM-6.4 5 **Demonstrate proficiency in safely setting up SMAW equipment and welding continuous beads** AC-IM-6.5 6 **Identify and explain the Gas Metal Arc Welding (GMAW) process** AC-IM-6.6 7 **Demonstrate proficiency in safely setting up GMAW equipment and welding continuous beads.** AC-IM-6.7
Demonstrate the ability to perform basic layout for parallel line development. AC-IM-7	1 **Demonstrate proficiency in the selection and use of layout tools for parallel line development** AC-IM-7.1 2 **Demonstrate proficiency in the selection and use of hand tools and equipment for parallel line development.** AC-IM-7.2
Demonstrate and explain the ability to perform basic layout for machined projects AC-IM-8	1 **Identify and explain the use of a conventional and Computer-Controlled Shaping Machine (CNC) machining equipment used in current manufacturing.** AC-IM-8.1 2 **Demonstrate proficiency in the selection and use of basic layout tools used in the machining trade** AC-IM-8.2 3 **Demonstrate proficiency in the selection and use of machine shop equipment to produce basic layout projects** AC-IM-8.3

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Examine how SkillsUSA is a co-curricular part of career and technical education through leadership development, school and community service projects, and competitive events AC-IM-9

1. **Explain the purpose, mission, objectives, motto, colors, official dress and other distinguishing characteristics of SkillsUSA.** AC-IM-9.1
2. **Explain how participation in SkillsUSA can promote lifelong responsibility for community service, professional growth and development.** AC-IM-9.2
3. **Explore the impact and opportunities that SkillsUSA can develop to bring business and industry together with education in a positive working relationship through innovative leadership and career development programs** AC-IM-9.3
4. **Explore the local, state, and national opportunities available to students through participation in SkillsUSA, including but not limited to conferences, competitions, community service, philanthropy, and other SkillsUSA activities.** AC-IM-9.4