

SEACOAST SCHOOL OF TECHNOLOGY Welding Technologies - Competencies

Technical Competencies
1. Identify safety policies and demonstrate proper use of personal safety and emergency equipment.
2. Interpret and comply with Material Safety Data Sheets; explain and interpret information on labels and signs.
3. Demonstrate proper use of tools and power equipment, proper set-up and operation of portable and fixed power tools/equipment.
4. Demonstrate proper service and repair techniques for equipment systems and implement preventive maintenance practices.
5. Identify metals by use of basic shop testing.
6. Demonstrate installation of regulators, lines and torch; check for gas leaks using approved methods; and shut down oxy/fuel system.
7. Select proper torch and tip size for task; demonstrate igniting and adjustment for the proper flame for the task.
8. Demonstrate proper equipment safety and identify major components of the machine (SMAW).
9. Demonstrate proper base metal cleaning techniques and joint clean-up, setup procedures and correct polarity, and proper electrode selection for task (stick).
10. Demonstrate a groove and fillet weld in 1G (flat) and 2F (horizontal-fillet) in accordance with the AWS standards.
11. Demonstrate proper equipment safety and identify major components of the machine and accessory equipment applicable to the process (GMAW).
12. Demonstrate proper base metal cleaning techniques, joint fit-up, polarity, wire selection and shielding gas (MIG).
13. Demonstrate a groove and fillet weld in the 1G (flat) and 2F (horizontal-fillet) in accordance with the AWS standards.
14. Demonstrate proper equipment safety and identify major components of the machine and accessory equipment applicable to the process (GTAW).
15. Demonstrate proper base metal cleaning techniques, joint fit-up, setup procedures, correct polarity, tungsten electrode, filler wire and shielding gas (TIG).

16. Demonstrate a groove and fillet weld in the 1G (flat) and 2F (horizontal-fillet) in accordance with AWS standards (TIG).
17. Describe and demonstrate safety procedures for thermal cutting, including but not limited to plasma arc and air carbon arc.
18. Demonstrate and set up straight line cuts and weld gouging.
19. Demonstrate Basic Blue Print Reading including field sketches, weld symbols, and bill of materials.
20. Recognize and discuss written and verbally the skills in quality assurance and quality control as it pertains to Performance Quality Review, welding procedure sheets and destructive and non-destructive testing.
21. Demonstrate effective welding shop management skills.
22. Identify the economic, sustainability and cost awareness of the welding industry.
Core Competencies
23. Discuss the options in planning the venture's futures (growth, development, demise).
24. Discuss personal growth, community leadership, democratic principles, and social responsibility by participating in activities/events offered through student organizations.
25. Decision-Making & Problem-Solving
26. Self-Management
27. Communication Skills
28. Ability to Work with Others
29. Information Use – Research, Analysis & Technology
30. Mathematical Concepts
31. General Safety
32. Career Development