SMAW EQUIPMENT & SET-UP
Course Syllabus

Course Number: WELD-0090
OCAS Code: None
Course Length: 15 Hours
Career Cluster: Manufacturing
Career Pathway: Welding and Metal Fabrication
Career Major(s): Combination Welder

Pre-requisite(s): This course is an introduction to SMAW and welding safety, how to connect welding current and set up arc welding equipment. The course covers the importance of tools used to clean welds.

Textbooks/Materials:
- Math for Welders, Marion and Nino, GoodHeart-Willcox (2001)

Course Objectives: A. Demonstrate an Understanding of SMAW – Equipment and Setup

1. Identify and explain shielded metal arc welding (SMAW) safety.
2. Identify and explain welding electrical current.
3. Identify and explain arc welding machines.
4. Perform safety inspections of SMAW equipment and accessories.
5. Perform minor external repairs of SMAW equipment and accessories.
6. Explain setting up arc welding equipment.
7. Set up a machine for SMAW welding on carbon steel.
8. Identify and explain tools for weld cleaning.
9. Set up shielded metal arc welding (SMAW) equipment.
   a. E7024, E6010, or E6011 and E7018 electrodes
   b. Base/filler metal selection/identification/preparation
   c. Review appropriate weld procedures
   d. Filler metal selection
   e. Proper hand tool selection
   f. Adjust amperage and polarity
   g. Base metal preparation
   h. Parts fit up and preheated as necessary

1. Welding Skills, National Center for Construction Education and Research (NCCER)
2. ODCTE Shielded Metal Arc Welder (SMAW) Skill Standards
3. American Welding Society, Entry Level Welder (Level I) Module 4
Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment: Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.

Available Certifications/College Credit: The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility: The student must maintain a grade point average of 2.0 or better.