AIR CARBON ARC CUTTING AND GOUGING
Course Syllabus

Course Number: WELD-0753        OHLAP Credit: No
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 air carbon arc cutting equipment and procedures. The course covers how to identify electrodes and safe operations of equipment. Instructions in performing air carbon arc welding and gouging work assignments are also given in the course.

Textbooks/Materials:
Modern Welding, GoodHeart- Willcox (2004)
Math for Welders, Marion and Nino, GoodHeart- Willcox (2001)

Course Objectives:
A. Identify and Explain the Air Carbon Arc Cutting (CAC-A) Process And Equipment. ¹
   1. Adequate power source selection.
   2. Carbon electrode diameter selection and installation. ¹
   3. Air flow direction.
   5. Communicate hazard warnings.

B. Perform Safety Inspections of Manual CAC-A Equipment and Accessories and Work Area. ¹, ²
   1. Adequate power source selection.
   2. Carbon electrode diameter selection and installation. ¹
   3. Air flow direction.
   5. Communicate hazard warnings.

C. Make Minor External Repairs to Manual CAC-A Equipment and Accessories. ¹, ²

D. Set Up For Manual Air Carbon Arc Scarfing and Gouging Operations on Carbon Steel Plate. ²
   1. Adequate power source selection.
   2. Carbon electrode diameter selection and installation. ¹
   3. Air flow direction.
   5. Communicate hazard warnings.

E. Operate Manual Air Carbon Arc Cutting Equipment on Carbon Steel. ²
   1. Air before arc.
   2. Process variables.
   3. Travel speed determines depth.

F. Perform Scarfing, Washing and Gouging Operations to Remove Base and Weld Metal in the Flat and Horizontal Positions on Carbon Steel. ¹, ²

G. Perform Storage and Housekeeping Activities for CAC-A Equipment. ¹
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1 Welding Skills, National Center for Construction Education and Research (NCCER)
2 Aligns with Module 8, Unit 4 of the American Welding Society (AWS) Entry Level Welder Level I

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.