PLASMA ARC CUTTING
Course Syllabus

Course Number: WELD-0087  
OHLAP Credit: No

OCAS Code: None

Course Length: 15 Hours

Career Cluster: Manufacturing

Career Pathway: Welding and Metal Fabrication

Career Major(s): Combination Welder, Welding Fabricator

Pre-requisite(s):

Course Description: This course is an introduction to plasma arc cutting equipment and procedures. This course covers safe amperage, gas pressure, and flow rate, plasma arc cutting methods for piercing, slotting, squaring, and beveling metals.

Textbooks/Materials:

- Math for Welders, Marion and Nino, GoodHeart-Willcox (2001)

Course Objectives:

A. Perform Safety Inspections of Manual Plasma Arc Equipment and Assessories. ²

B. Make Minor External Repairs to Manual Plasma Arc Equipment and Assessories. ²

C. Identify and Understand Plasma Arc Cutting Processes. ¹

D. Identify Plasma Arc Cutting Equipment. ¹

E. Set Up For Manual Plasma Arc Cutting Operations on Carbon Steel Plate, Aluminum, and Austenitic Stainless Steel Plate. ¹²
   1. Regulators set for appropriate plasma gas.
   2. Tip selection.

F. Operate Manual Plasma Arc Cutting Equipment on Carbon Steel Plate, Aluminum, and Austenitic Stainless Steel Plate. ¹²
   1. Protect surroundings from spray.

G. Perform Straight, Square Edge Cutting Operations in the Flat and Horizontal Positions on Carbon Steel Plate, Aluminum, and Austenitic Stainless Steel Plate. ¹²

H. Perform Shape, Square Edge Cutting Operations in the Flat and Horizontal Positions on Carbon Steel Plate, Aluminum, and Austenitic Stainless Steel Plate. ¹²
I. Properly Store Equipment and Clean the Work Area After Use.¹

¹ Welding Skills, National Center for Construction Education and Research (NCCER)
² Aligns with Module 8, Unit 3 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.