GTAW ALUMINUM PLATE  
Course Syllabus

Course Number: WELD-0081    OHLAP Credit: No
OCAS Code: None
Course Length: 45 Hours
Career Cluster: Manufacturing
Career Pathway: Welding and Metal Fabrication
Career Major(s): Combination Welder

Pre-requisite(s):
This course is an introduction to open root V-groove welding of aluminum plate in the 2G, 5G and 6G positions.

Textbooks/Materials:


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

Course Objectives:
A. Identify and explain aluminum metallurgy. 1
B. Explain and identify characteristics of aluminum. 1
C. Explain GTAW and set up equipment to weld aluminum plate. 1 2
D. Demonstrate an Understanding of GTAW – Aluminum Plate Welding 1
   1. Explain and practice GTAW techniques for plate, including padding in the flat position with stringer beads, using aluminum filler metal. 1
   2. Operates GTAW equipment on aluminum. 2
   2. Make fillet welds on aluminum plate in the following positions: 1
   a. 1G (flat) 1
   b. 2G (horizontal) 1
   c. 3G (vertical) 1
   d. 4G (overhead) 1
   e. 1F position 2
   f. 2F position 2
   3. Make multipass open V-groove welds with backing on aluminum plate in the following positions: 1
   a. 1G (flat) 1 2
   b. 2G (horizontal) 1
   c. 3G (vertical) 1
   d. 4G (overhead) 1

E. Passes GTAW welder performance qualification test on aluminum. 2

1 Welding Skills, National Center for Construction Education and Research (NCCER)  
2 Level I, Entry Level Welder, Module 7, American Welding Society (AWS)
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.