Course Number: WELD-0088
OHLAP Credit: No
OCAS Code: None
Course Length: 30 Hours
Career Cluster: Manufacturing
Career Pathway: Welding and Metal Fabrication
Career Major(s): Combination Welder, Welding Fabricator

Pre-requisite(s):
This course is an introduction to identifying and understanding welding detail drawings. The course describes lines, fills, object views, dimensioning on drawings, use of notes and the bill of materials. Also given is an introduction to the different welding symbols, different types of fillet welds, groove welds, non-destructive examination symbols, how to read welding symbols on drawings, specifications and welding procedures.

Textbooks/Materials:

Modern Welding, GoodHeart-Willcox (2004)

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

Course Objectives:

A. Interpret basic elements of a drawing or sketch.¹ ²
   1. Terms.
   2. Components.
   3. Revisions.
   4. Symbols.
   5. Structural members.
   6. Inspection/test requirements.
   7. Sequence of assembly.
   8. Dimensions and tolerances.
   9. Revisions.
   10. Scale.
   11. View interpretation.
   12. List of materials.

B. Identify and explain a welding detail drawing.²
   1. Identify and explain lines, material fills, and sections.²
   2. Identify and explain object views.²
   3. Identify and explain dimensioning.²
   4. Identify and explain notes and bill of materials.²

C. Interpret welding symbol information.¹
   1. Type of weld required.¹
   2. Filler metal.¹
   3. Special details.¹
4. Non-destructive testing requirements. ¹

D. Interpret written welding procedures. ¹
   1. Procedure ID number cross-referencing to drawing.
   3. Appropriate machine settings.

E. Develop basic welding drawings. ²

F. Fabricate parts from a drawing or sketch. ¹
   1. Prepare, assemble, and tack weld parts according to drawing or sketch specifications.

¹ Aligns with Module 3 of the American Welding Society (AWS) Entry Level Welder Level I
² Aligns with the National Center for Construction Education and Research (NCCER)
   Objectives for Welding

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.