ISET-1110: OXYFUEL PROCESSES/PLASMA PROCESSES

Cuyahoga Community College

Viewing: ISET-1110 : Oxyfuel Processes/Plasma Processes

Board of Trustees:
January 2023

Academic Term:
Fall 2023

Subject Code
ISET - Integrated Systems Engineering

Course Number:
1110

Title:
Oxyfuel Processes/Plasma Processes

Catalog Description:
Develop skills in OxyFuel processes, cutting, brazing, and plasma processes. Extensive guided instruction provided.

Credit Hour(s):
4

Lecture Hour(s):
2

Lab Hour(s):
4

Requisites

Prerequisite and Corequisite
None.

Outcomes

Course Outcome(s):
Utilize skills in OxyFuel Gas/Plasma Processes to prepare parts or complete assigned work tasks according to job specifications.

Objective(s):
1. Interpret the different Oxyfuel/Plasma cutting processes.
2. Practice cutting safety through laboratory activities.
3. Utilize OxyFuel and Plasma cutting processes in a safe and efficient manner to cut steel into parts used in fabrications and weldments.
4. Demonstrate mastery of OxyFuel Gas/Plasma Processes cutting processes through the setup, use, and shutdown of related equipment.
5. Prepare welded work samples to American Welding Society Standards (AWS).

Course Outcome(s):
Construct a project utilizing Oxyfuel/Plasma cutting technologies.

Objective(s):
1. Construct a metalworking project that includes welding print reading skills and is in accordance with standard acceptable welding industry practices.
2. Create a metalworking/artwork project incorporating artistry and creativity.

Methods of Evaluation:

a. Laboratory assignments of cutting operations
b. Written and hands-on quizzes covering homework and in-class demonstrations
c. Classroom participation
d. Final exam

Course Content Outline:

a. Concepts
   i. Safety when operating OxyFuel/Plasma equipment
   ii. OxyFuel/Plasma equipment set up, operation, and shutdown
   iii. Metal preparation for OxyFuel/Plasma equipment
   iv. Cutting of both thin materials and heavy plate steel.
   v. Square and bevel cuts
   vi. Limitations of Oxyfuel/Plasma cutting processes
   vii. Supplies used in OxyFuel/Plasma cutting processes
   viii. Basic math
   ix. Measurements
b. Skills: Utilizing OxyFuel/Plasma cutting processes, the student will learn and become proficient with the safe and efficient use of the equipment and demonstrate mastery of OxyFuel/Plasma cutting processes through the setup, use, and shutdown of related equipment.
   i. Equipment and response
   ii. Setup and shutdown of oxyfuel/plasma cutting equipment
   iii. Select the proper cutting process for the type of metal
   iv. Prepare metal for cutting
   v. Select proper measuring and hand tools for specific jobs
   vi. Apply safety procedures
c. Issues
   i. Safe operation of equipment
   ii. Math
   iii. Relate theory to practical application

Resources

Althous, Turnquist, Bowditch, Bowditch, Bowditch. *Modern Welding.* 11th. Goodheart-Wilcox, 2012.

Walker, Polanin. *Welding Print Reading.* 6th. Goodheart-Wilcox, 2012.

Bennett, Siy. *Blueprint Reading for Welders*. 9th. Delmar, 2019.

Jeffus. *Welding Principles and Practices*. 8th. Delmar, 2020.

Bohnart. *Welding. Principles and Applications*. 5th. McGraw Hill, 2021.

Resources Other

U/LINC Learning Management System Lincoln Electric Education.
http://education.lincolnelectric.com/the-lincoln-weld-school/educator-professional-courses/ulinc/

Top of page
Key: 5099