Course Information Form (CIF)

Course Code: WLX 112

Course Title: Introduction to Oxy-fuel Welding and Cutting

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 48.0508
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 0.5-1-1
Credit Hour Distribution:

Lecture: 0.5	Lab: 1	Clinical: 0	**Total: 1**

General Course Information

Catalog Description

Introductory theory and practice in oxyacetylene welding and cutting. Includes oxyacetylene fusion welding in the various positions on plate steel and manual oxy-fuel cutting.

General Course Objectives

To develop in students safe working habits, the ability to select, maintain, and use oxyacetylene welding; a working knowledge of, and an appreciation for, welding and its effect on industry; a foundation of basic knowledge which may be used both vocationally and avocationally; and the self-confidence to systematically evaluate situations to make sound decisions based on this evaluation.

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	Placement into MAT 059

Prerequisites

None

Methods of Evaluation

5 lab assignments to evaluate competency level.
Online assessments over course content.

Instructional Materials and Additional Supplies

Cobra with Tooling-U Content
Access to a device capable of accessing Cobra and Tooling-U content.

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Oxy-fuel Safety	1. Demonstrate proper safety procedures at all times while using oxyacetylene equipment. 2. Identify the equipment and materials essential for safe welding. 3. Describe the safe handling and storage of oxyacetylene welding equipment and bottles. 4. List the personal welding equipment required to protect the welder. 5. Describe the proper clothing to be worn in the welding shop.	2	2	0
Oxyacetylene Theory, Practice, and Equipment Setup	1. Explain how fusion is achieved using the oxyacetylene welding process. 2. Explain the steps in setting up an oxyacetylene welding unit. 3. List the five factors which affect the selection of the proper welding tip. 4. Demonstrate the procedure for lighting the oxyacetylene welding torch, adjusting the torch to the proper flame, and shutting down the torch.	1.5	4	0
Welding Rod and Electrode Arc Selection	1. Identify the five basic welding rods used with the oxyacetylene torch. 2. Explain the American Welding Society (AWS) code for oxyacetylene welding rods. 3. Explain the four parts to the AWS electrode identification code.	0.5	1	0
Off-position Welding	1. Explain each of the four off positions in welding. 2. List the major problems which may be encountered in off-position welding. 3. Explain how to counter the effects of the above-mentioned problems on the weld. 4. Explain the techniques used in oxyacetylene welding in each of the off positions. 5. Demonstrate the procedures and techniques that facilitate proper welding out of position.	1	3	0
Oxyacetylene Cutting	1. List the steps for cutting with the oxyacetylene cutting torch. 2. List the safety precautions to be used in oxyacetylene cutting. 3. List the gas pressures used to cut 0.25 inch thick metal. 4. Demonstrate the procedure used in the cutting of a hole in a piece of steel plate with the oxyacetylene cutting processes.	0.5	1.5	0
Heat Treating Metals	1. Describe heat treating processes of steels.	0.5	1.5	0
Equipment Maintenance	1. Demonstrate the procedures involved in testing and maintaining oxyacetylene welding equipment.	1.5	2	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
7.5	15	0