Course Information Form (CIF)

Course Code: WLX 113

Course Title: Introduction to Oxy-fuel Brazing

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 brazing in the various positions on plate steel.

General Course Objectives

To develop in students safe working habits, the ability to select, maintain, and use oxyacetylene brazing; 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

4 lab assignments to evaluate skill 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
Welding/Brazing Safety	1. Demonstrate proper safety procedures at all times while using oxyacetylene equipment. 2. List the hazards created by braze welding. 3. Demonstrate the safety practices of braze welding. 4. Describe the personal welding equipment required to protect the welder.	1.5	2	0
Oxyacetylene Theory, Practice, and Equipment Setup	1. Explain how non-fusion is achieved using the oxyacetylene brazing process. 2. Explain the steps in setting up an oxyacetylene welding unit. 3. List the factors which affect the selection of the proper flame setting. 4. Demonstrate the procedure for lighting the oxyacetylene welding torch, adjusting the torch to the proper flame, and shutting down the torch.	2	4	0
Brazing, Braze Welding, and Soldering	1. Differentiate between the heat requirements for fusion welding, brazing, and soldering. 2. Describe the procedure used in brazing and soldering a joint in mild (carbon) steel. 3. Demonstrate the techniques and procedures used to braze.	1.5	3	0
Brazing Rod 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. 4. Describe the composition of brazing rod used in class.	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. Demonstrate the techniques used in oxyacetylene brazing in each of the off positions.	1	3	0
Characteristics and Welding of Cast Iron	1. Describe the procedure for preparing the metal for oxyacetylene fusion welding and brazing of cast iron. 2. Describe the correct electrode and procedure for electric arc welding of cast iron.	0.5	1	0
Equipment Maintenance	1. Identify the procedures involved in testing and maintaining oxyacetylene brazing and welding equipment.	0.5	1	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
7.5	15	0