



# ILLINOIS VALLEY COMMUNITY COLLEGE

## COURSE OUTLINE

**DIVISION:** Workforce Development

**COURSE:** WSP 2208 OAW Oxy, Plasma Cutting, Air Carbon Arc

Date: Summer 2022

Credit Hours: 2

*Complete all that apply or mark "None" where appropriate:*

Prerequisite(s): None

Enrollment by assessment or other measure?  Yes  No

If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): None

Consent of Instructor:  Yes  No

Delivery Method:  **Lecture**                      **1 Contact Hours** (1 contact = 1 credit hour)  
 **Seminar**                              **0 Contact Hours** (1 contact = 1 credit hour)  
 **Lab**                                        **2 Contact Hours** (2-3 contact = 1 credit hour)  
 **Clinical**                                **0 Contact Hours** (3 contact = 1 credit hour)  
 **Online**  
 **Blended**  
 **Virtual Class Meeting (VCM)**

Offered:  **Fall**     **Spring**     **Summer**

**CATALOG DESCRIPTION and IAI NUMBER (if applicable):**

This course includes the theory, safety and operation of oxyacetylene cutting, plasma Cutting, and carbon arc use.

## **ACCREDITATION STATEMENTS AND COURSE NOTES:**

None

## **COURSE TOPICS AND CONTENT REQUIREMENTS:**

Shop safety

Basic Printreading

Oxyfuel gas cutting equipment

Using Oxyfuel cutting equipment

Plasma arc cutting equipment

Using plasma arc cutting equipment

Air carbon arc cutting equipment

Using air carbon arc cutting equipment

## **INSTRUCTIONAL METHODS:**

Classroom lecture, weld lab hands-on instruction

## **EVALUATION OF STUDENT ACHIEVEMENT:**

1. Read all material before coming to class
2. Participate in classroom and lab discussions and lectures.
3. Attend all class and lab sessions
4. Complete all required assignments, exercises, tasks, quizzes and tests.
5. Self-asses welds, maximize lab time.

The following grading scale will be used:

A= 90-100

B= 80-89

C= 70-79

D= 60-69

F= 0-59

## **INSTRUCTIONAL MATERIALS:**

### **Textbooks**

Modern Welding textbook and workbook, G-W, 12th edition

### **Resources**

Current Learning Management System (LMS) content available

Videos

Handouts

Lincoln Electric Welding technology center

Hobart institute of Welding technology

## **LEARNING OUTCOMES AND GOALS:**

### **Institutional Learning Outcomes**

- 1) Communication – to communicate effectively;
- 2) Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- 3) Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;

☒ 4) Responsibility – to recognize how personal choices affect self and society.

### **Course Outcomes and Competencies**

1. Safe use of all equipment as well as all safety guidelines will be discussed and utilized.
2. Understand and demonstrate safe work practices in the welding shop in regards to oxyacetylene torch cutting equipment.
3. Understand and demonstrate safe work practices in the welding shop in regards to plasma cutting equipment.
4. Understand and demonstrate safe work practices in the welding shop in regards to carbon arc gouging and cutting.
5. Demonstrate the ability to cut mild steel with an oxyacetylene torch, in flat- straight and round cuts, bevel cutting, pipe- straight, round and bevel cuts.
6. Demonstrate the ability to cut mild steel with plasma cutting torch in flat- straight and round cuts, bevel cutting, pipe- straight, round and bevel cuts.
7. Demonstrate the ability to set up and use carbon arc equipment with mild steel, to gouge and bevel in both flat plate and pipe.
8. Demonstrate the ability to conduct a Visual Examination of these cuts and bevels to AWS criteria.