



# **ILLINOIS VALLEY COMMUNITY COLLEGE**

## **COURSE OUTLINE**

**DIVISION: Workforce Development**

**COURSE: WSP 1230 FCAW Mild Steel, All Positions**

Date: Spring 2022

Credit Hours: 2

Prerequisite(s): Approval from Program Coordinator

Delivery Method:

<input checked="" type="checkbox"/> <b>Lecture</b>	<b>1 Contact Hours</b> (1 contact = 1 credit hour)
<input type="checkbox"/> <b>Seminar</b>	<b>0 Contact Hours</b> (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> <b>Lab</b>	<b>2 Contact Hours</b> (2-3 contact = 1 credit hour)
<input type="checkbox"/> <b>Clinical</b>	<b>0 Contact Hours</b> (3 contact = 1 credit hour)
<input type="checkbox"/> <b>Online</b>	
<input type="checkbox"/> <b>Blended</b>	
<input type="checkbox"/> <b>VCM</b>	

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

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

Theory and practice in the preparation and welding of mild steel plate in all positions using FCAW process with cored wire electrode, in gas shielded and self-shielded.

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

Shop safety  
Basic Print reading  
Welding joints positions and symbols  
Power sources, wire feeders for FCAW  
Shielding gasses used in FCAW  
GMAW electrode classification  
PPE requirements  
FCAW welding principles  
FCAW metal transfer  
FCAW welding techniques  
FCAW Special ferrous welding applications

## **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.

## **INSTRUCTIONAL MATERIALS:**

### **Textbooks**

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

### **Resources**

Blackboard Publisher content available  
Videos  
Handouts  
Lincoln Electric Welding technology center  
Hobart institute of Welding technology

## **LEARNING OUTCOMES AND GOALS:**

### **Institutional Learning Outcomes**

- Communication – to communicate effectively;
- Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- 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. Establish an electric arc and deposit a 6” long bead in both stringer and weave style in all positions.
3. Demonstrate restarts as needed in both stringer and weave beads in all positions.

4. Demonstrate the ability to produce a surfacing weld in all positions.
5. Demonstrate the ability to produce a single pass fillet weld, in lap, tee and corner joints in all positions.
6. Demonstrate the ability to produce a multi-pass fillet weld, in lap, tee and corner joints in all positions.
7. Demonstrate the ability to conduct a Visual Examination of these welds to AWS criteria.