



# ILLINOIS VALLEY COMMUNITY COLLEGE

## COURSE OUTLINE

**DIVISION: Workforce Development**

**COURSE: WLD 1209 GMAW Flat and Horizontal Position**

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):**

Theory and practice in the preparation and welding of mild steel plate in the flat and horizontal positions using GMAW process with solid wire electrode.

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

None

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

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

## **INSTRUCTIONAL METHODS:**

Classroom lecture, weld lab hands-on instruction

## **EVALUATION OF STUDENT ACHIEVEMENT:**

All appropriate personal protective equipment to safely perform in the welding lab  
Students will be graded with examinations  
Visual inspection of welded specimens  
Visual inspection of final welded specimen

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, 12<sup>th</sup> edition

### **Resources**

Current Learning Management System (LMS) content available  
Welded examples  
Selected handouts  
Videos  
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. Establish an electric arc and deposit a 6” long bead in both stringer and weave style.
3. Demonstrate restarts as needed in both stringer and weave beads.
4. Demonstrate the ability to produce a surfacing weld.
5. Demonstrate the ability to produce a single pass fillet weld, in lap, tee and corner joints.
6. Demonstrate the ability to produce a multi-pass fillet weld, in lap, tee and corner joints.
7. Demonstrate the ability to conduct a Visual Examination of these welds to AWS criteria.