# ILLINOIS VALLEY COMMUNITY COLLEGE

## COURSE OUTLINE

**DIVISION: Workforce Development**

**COURSE: WLD 1200 SMAW Mild Steel, Flat 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 position using E6010 and E7018 electrodes will be explored.

**ACCREDITATION STATEMENTS AND COURSE NOTES:**
None

**COURSE TOPICS AND CONTENT REQUIREMENTS:**
Shop safety
Basic Print reading
Welding joints positions and symbols
Arc welding power sources
SMAW electrode classification
PPE requirements
DC arc welding fundamentals
AC arc welding fundamentals
SMAW 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, 12th 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.