



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: WLD 1231 SMAW Mild Steel, Open Root, All Positions

Date: Summer 2022

Credit Hours: 2

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

Prerequisite(s): WLD 1200, WLD 1201, WLD 1202, WLD 1204

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, vee groove, with backing and open root, in all positions using E6010 and E7018 electrodes will be explored.

ACCREDITATION STATEMENTS AND COURSE NOTES:

None

COURSE TOPICS AND CONTENT REQUIREMENTS:

Shop safety
Basic Printreading
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:

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. Demonstrate the ability to prepare the groove face, root face, and assemble with a correct root opening.
3. Demonstrate the ability to prepare the groove face, and assemble with correct root opening without Backing.
4. Demonstrate the ability to deposit a root weld, 6” long, with correct melt through.
5. Demonstrate the ability to deposit a root weld, 6” long, with correct groove penetration.
6. Demonstrate the ability to deposit fill weld positions, 6” long, with restarts, in stringer and weave styles.
7. Demonstrate the ability to deposit cap pass welds, 6” long, with restarts, in stringer and weave styles.
8. Demonstrate the ability to conduct a Visual Examination of these welds to AWS criteria.