ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: WLD 2233 SMAW Pipe, 6G, GTAW Root, SMAW Finish

Date: Summer 2022

Credit Hours: 2

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

Prerequisite(s): WLD 1231, WLD 1220

Enrollment by assessment or other measure? ☐ Yes ☒ No
If yes, please describe:

Corequisite(s): None

Pre- or Corequisite(s): WLD 2203, WLD 2213

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 pipe, open root, in 6G position using GTAW root and hot pass, then SMAW E7018 electrode fill and cap passes 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
Pipe welding fundamentals
SMAW pipe welding techniques
GTAW mild steel, all position

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 deposit a root weld with correct melt through.
4. Demonstrate the ability to deposit fill weld positions, with restarts, in stringer and weave styles.
5. Demonstrate the ability to deposit cap pass welds, with restarts, in stringer and weave styles.
6. Demonstrate the ability to conduct a Visual Examination of these welds to AWS criteria.