EICC COURSE DEVELOPMENT MODEL (CDM)

CATALOG COURSE NUMBER: WEL-259 **COURSE TITLE:** Oxyacetylene Arc Welding Originating College:
CCC
MCC
SCC Initiating Faculty Member: Bruce Baldwin

Effective Term/Year: Fall 2015 Initiating Department Coordinator: Ben Kettering

Reason for submission: Check all that apply

New Course If yes, type of course:

□A&S

To be considered for General Education?
[□] Yes [□] No Category:

CTE Program Title: Oxy-Acetylene Welding Required Elective

□General Education or Program Review □Reactivation of an inactive course □Making course inactive □Changing course; please explain: Changing course to 1 semester credit hours.

□Other; please explain:

Contact Hours/Distribution of Contact Hours							
Lecture Hours		Lab Hours		Clinical Hours		Coop Hours	
Hours per Week:	0.50	Hours per Week:	1.00	Hours per Week:		Hours per Week:	
Number of Weeks:	16.50	Number of Weeks:	16.50	Number of Weeks:	16.50	Number of Weeks:	16.50
**Note: If offering a	course	for the full fall or sp	ring sei	mester, the number o	of week	ks is 16.5	
Total Lecture Hrs:	9.90	Total Lab Hrs:	19.80	Total Clinical Hrs:		Total Coop Hrs:	

Semester Hours Credit: 1.00 if variable credit, give range:

Allow repeat^{*} for credit: □Yes □No

If yes, total course repeats allowed: If yes, total credits:

*Note that repeat for credit means a student can pass the course and then repeat it for additional credit. An internship course is an example of a course that could be set up as repeatable for additional credit

Course or courses this CDM replaces, if any: Oxyacetylene Welding and Cutting WEL-136

CATALOG COURSE DESCRIPTION: This course uses a variety of hands-on projects/experiments to integrate and reinforce theoretical concepts of oxyacetylene welding in the laboratory setting.

RECOMMENDED ENTRY LEVEL SKILLS/KNOWLEDGE:

PRE-REQUISITE COURSES

CCN#	COURSE TITLE			
MFG 186	Plant Safety	Plant Safety		
CO-REQUISITE COURSES				
CCN#	COURSE TITLE			

PUBLISHED MATERIAL(S) USED FOR CDM DEVELOPMENT: Hobart Institute of Welding Technology EW369 OAW, Troy, OH: Hobart Institute of Welding Technology, 2011, Print.

In general it is expected that source material will be dated within 5 years of this CDM date. If all materials/ textbooks cited above are older than this, please explain:

GENERAL COURSE GOALS

Upon successful completion of this course the student should be able to:

This course will provide the student with basic fundamentals of oxy-acetylene welding, cutting, and brazing.

TOPICAL OUTLINE

- 1. Oxyacetylene Welding Course Overview
- 2. Introduction to Oxyacetylene Welding
- 3. Oxyacetylene Welding Safety
- 4. Safety and Health of Welders
- 5. Equipment Setup, Operation and Shutdown
- 6. Weld Quality
- 7. Stringer Beads
- 8. Fillet Weld, Lap Joint
- 9. Fillet Weld, Inside Corner
- 10. Introduction to Oxyacetylene Flame Cutting
- 11. Application of Fuel Gases
- 12. Square-Groove, Bevel and Hole Cuts
- 13. Square-Groove, Bevel and Hole Cut Visual Inspection
- 14. Introduction to Braze Welding
- 15. Fillet Weld, Lap Joint, Braze Weld

COURSE OBJECTIVES

Upon successful completion of the course, a student should be able to:

- 1. Oxyacetylene Welding Course Overview
- a.Describe the oxyacetylene welding process.
- b.Describe the oxyacetylene brazing process.
- c.Describe the oxyacetylene cutting process.
- 2. Introduction to oxyacetylene welding
- a.Explain how gasses are combined.
- b.Identify the three types of flames.
- c.Choose the proper tip size, filler metal, and gas settings.
- 3. Oxyacetylene Welding Safety
- a.Identify possible hazards.
- b.Perform safe handling procedures.
- 4. Safety and Health of Welders
- a.Select proper personal protective equipment.
- b.Identify the important safety rules associated with oxyacetylene welding.
- 5. Equipment Setup, Operation, and Shutdown
- a.Assemble correct equipment and materials.
- b.Perform visual inspection on equipment.
- c.Demonstrate correct equipment settings.
- d.Operate correct equipment shutdown procedures.
- 6. Weld Quality
- a.ldentify weld defects.
- b.Explain cause of defects.
- c.Choose how to prevent defects.
- 7. Stringer Beads
- a.Produce quality welds on plate steel using the flat welding position.
- 8. Fillet Weld, Lap Joint
- a.Assemble a lap joint.
- b.Produce a quality fillet weld using the horizontal welding position.
- 9. Fillet Weld, Inside Corner
- a.Assemble a inside corner joint.
- b.Produce a quality fillet weld, inside corner joint, using the horizontal welding position.
- 10. Introduction to Oxyacetylene Flame Cutting
- a.Explain the principles of the flame cutting process.
- 11. Application of Fuel Gasses
- a.List the four most widely-used oxyfuel gasses.
- b.Explain the oxyfuel gas uses in cutting and welding.
- 12. Square-Groove, Bevel and Hole Cuts

a.Produce quality square-groove cuts.
b.Produce quality bevel cuts.
c.Produce quality circular hole cuts.
13. Square-Groove, Bevel and Hole Cut Visual Inspection
a.Compare blueprint dimensions to actual workpiece dimensions.
14. Introduction to Braze Welding
a.Identify the principles of brazing and braze welding.
15. Fillet Weld, Lap Joint
a.Construct a lap joint.
b.Produce a quality braze weld using the horizontal welding position.

RECOMMENDED METHODS OF INSTRUCTION: Check all appropriate methods of instruction to facilitate student learning of course objectives.

□Case Studies	Class Discussions
Computer lab work	Computer-assisted tools
Computer-assisted writing	Conducting experiments
Demonstration or modeling	Electronic interaction
Field observation	□Field trips
□Guest speaker	Guided practice
In-class writing or editing workshops	□Journals
□Lecture	Library instruction and resources
□Model building	Peer review
□Readings	□ □Role play
□Service learning	Simulation
Student and instructor conferences	Student collaborative learning
Student presentation	Student projects
Tests or quizzes	□Worksheets/surveys
Writing assignments/exercises (graded or not)	
□Other (please list specifics):	

RECOMMENDED EVALUATION METHODS: Check all appropriate methods of evaluation to assess student achievement of course objectives.

□Class workshops	Classroom discussions/participation	
□Collaborative work	Demonstration of skill(s)	
□Individual conferences	□Journals	
Laboratory reports	Oral presentations	
□Portfolios	□Pretest/Posttest	
Quizzes	Reading responses	
Student presentations	Student projects	
☑Tests	Writing Assignments	

□Other (please list specifics):

ATTENDANCE: Policies on attendance will be formulated by the instructor and communicated to the students on the course syllabus.

ACADEMIC DISHONESTY: Policies on academic dishonesty can be found in the EICC student code of conduct published in the student handbook.

CDM CREATION/REVIEW/REVISION INFORMATION

Originally Written by:	Date:				
Department Chair, Comments, & Date:					
Does similar curriculum exist at other EICC Colleges? CCC MCC SCC No					
If yes, Counterparts Consulted, College, Comments & Date:					
CDM Review or Revision Date:					
Faculty member(s) & College:					
Does similar curriculum exist at other EICC Colleges? CCC MCC SCC	□No				
Changes made to course which will require further review steps:					
Making course inactive Credit hours Contact hours Course Description					
25% or more of course objectives Other minor revisions or no revisions					
Dean Review, Comments & Date:					
If changes made require further review and approval:					
College Curriculum Committee Sign-off & Date:					
IC Review Subcommittee Sign-off & Date:					
Instructional Council Approval:					