

EICC COURSE DEVELOPMENT MODEL (CDM)

CATALOG COURSE NUMBER: WEL-215

COURSE TITLE: Shielded Metal Arc Weld-Adv 1

Originating College: ☐ CCC ☐ MCC ☒ SCC

Initiating Faculty Member: EICC EICC

Effective Term/Year: Fall 2008

Initiating Department Coordinator:

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:

To be part of an A & S Concentration? ☐ Yes ☒ No Concentration:

☒ CTE Program Title: ☐ Required ☒ Elective

☐ General Education or Program Review ☐ Reactivation of an inactive course ☐ Making course inactive

☐ Changing course; please explain:

☐ Other; please explain:

Contact Hours/Distribution of Contact Hours

Lecture Hours

Lab Hours

Clinical Hours

Coop Hours

Hours per Week: 0 Hours per Week: 0 Hours per Week: 0 Hours per Week: 0

Number of Weeks: Number of Weeks: Number of Weeks: Number of Weeks:

****Note: If offering a course for the full fall or spring semester, the number of weeks is 16.5**

Total Lecture Hrs: 9.90 Total Lab Hrs: 178.20 Total Clinical Hrs: 0 Total Coop Hrs: 0

Semester Hours Credit: 5.00 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:

CATALOG COURSE DESCRIPTION: This course will familiarize the student with welding structural steel 1" thick in the flat, vertical up, horizontal, and overhead positions using 7018 and 6010 electrodes.

RECOMMENDED ENTRY LEVEL SKILLS/KNOWLEDGE:

PRE-REQUISITE COURSES

CCN#	COURSE TITLE
WEL 126	Shielded Metal Arc Weld-Basic

CO-REQUISITE COURSES

CCN#	COURSE TITLE

PUBLISHED MATERIAL(S) USED FOR CDM DEVELOPMENT:

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:

produce quality welds on structural steel 1"thick.

TOPICAL OUTLINE

1. Module 1 Topics 1-8 Assignments for Shielded Metal Arc Welding Advanced 1
2. Module 2 Topics 9-18 Assignments for Shielded Metal Arc Welding Advanced 1

COURSE OBJECTIVES

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

1. Know the application and advantages of shielded metal arc welding as a major metal joining process.
2. Work safely during all phases of welding.
3. Deposit multi-pass fillet welds on the horizontal position on thick material using E6010 and E7018 Electrodes.
4. Develop a technical understanding of weld size and weld bead profile to produce welds as required by design.
5. Produce quality multi-pass fillet welds in the overhead position, using E6010 and E7018 electrodes.
6. Develop a working knowledge of the equipment and method of operation required to use the air carbon arc cutting process.
7. Produce quality multi-pass fillet welds in the vertical position with up hill travel, using E6010 and E7018 electrodes.
8. Produce a fillet weld in the vertical position which passes the visual inspection and macroetch requirements for acceptability.
9. Produce quality complete penetration single bevel groove welds in the 2G horizontal position with backing strip, using multiple pass stringer beads.
10. Make a single bevel groove weld in the horizontal position which is capable of passing visual and guided bend test according to prescribed standards of acceptability.
11. Produce quality complete penetration single V-groove welds, using multiple-pass weave beads in the vertical position with a backing strip.
12. Produce a single V-groove weld in the vertical position up with sufficient quality to pass a visual inspection and guided bend test.
13. Identify metals based on several methods of testing.
14. Produce quality complete penetration groove welds in the 4G overhead position, using multiple pass stringer beads.
15. Pass a single V-groove weld in the overhead position with sufficient quality to pass a visual inspection and guided bend test.
16. Know the factors which must be considered to weld cast iron or surfacing of steels (wear or restoration).
17. Produce quality complete penetration single V-groove welds in the 1G flat position with backing strip, using multi-pass stringer beads.
18. Produce a single B-groove weld in the flat position with sufficient quality to pass a visual inspection and guided bend test.

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

<input type="checkbox"/> Case Studies	<input type="checkbox"/> Class Discussions
<input type="checkbox"/> Computer lab work	<input type="checkbox"/> Computer-assisted tools
<input type="checkbox"/> Computer-assisted writing	<input type="checkbox"/> Conducting experiments
<input type="checkbox"/> Demonstration or modeling	<input type="checkbox"/> Electronic interaction
<input type="checkbox"/> Field observation	<input type="checkbox"/> Field trips
<input type="checkbox"/> Guest speaker	<input type="checkbox"/> Guided practice
<input type="checkbox"/> In-class writing or editing workshops	<input type="checkbox"/> Journals
<input type="checkbox"/> Lecture	<input type="checkbox"/> Library instruction and resources
<input type="checkbox"/> Model building	<input type="checkbox"/> Peer review
<input type="checkbox"/> Readings	<input type="checkbox"/> Role play
<input type="checkbox"/> Service learning	<input type="checkbox"/> Simulation
<input type="checkbox"/> Student and instructor conferences	<input type="checkbox"/> Student collaborative learning
<input type="checkbox"/> Student presentation	<input type="checkbox"/> Student projects
<input type="checkbox"/> Tests or quizzes	<input type="checkbox"/> 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

☐ Collaborative work

☐ Individual conferences

☐ Laboratory reports

☐ Portfolios

☐ Quizzes

☐ Student presentations

☐ Tests

☐ Other (please list specifics):

☐ Classroom discussions/participation

☐ Demonstration of skill(s)

☐ Journals

☐ Oral presentations

☐ Pretest/Posttest

☐ Reading responses

☐ Student projects

☐ Writing Assignments

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: