

Washtenaw Community College Comprehensive Report

WAF 130 Shielded Metal Arc Welding (SMAW)

Effective Term: Fall 2016

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: Welding and Fabrication

Discipline: Welding and Fabrication

Course Number: 130

Org Number: 14600

Full Course Title: Shielded Metal Arc Welding (SMAW)

Transcript Title: Shielded Metal Arc Welding

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Time Schedule , Web Page

Reason for Submission: Course Change

Change Information:

Course discipline code & number

Course title

Course description

Pre-requisite, co-requisite, or enrollment restrictions

Outcomes/Assessment

Objectives/Evaluation

Other:

Rationale: Updating course to meet new program requirements.

Proposed Start Semester: Fall 2016

Course Description: In this course, which expands on the Shielded Metal Arc Welding (SMAW) process, students are introduced to all position welding on various joint designs. Other topics in the course include AWS electrode identification, classification and proper weld positioning. Students will apply techniques taught in the course when welding structural shapes and pipe. This course contains material previously taught in WAF 112.

Course Credit Hours

Variable hours: No

Credits: 4

Lecture Hours: Instructor: 30 Student: 30

Lab: Instructor: 90 Student: 90

Clinical: Instructor: 0 Student: 0

Total Contact Hours: Instructor: 120 Student: 120

Repeatable for Credit: NO

Grading Methods: Letter Grades

Audit

Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Level 1

Requisites

Prerequisite

WAF 109 minimum grade "C"; allow concurrent enrollment and

Prerequisite

WAF 126 minimum grade "C"

General Education**Request Course Transfer**

Proposed For:

Student Learning Outcomes

1. Recognize and apply welding vocabulary and theory.

Assessment 1

Assessment Tool: Multiple Choice Test

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 80% of students will score 80% or higher.

Who will score and analyze the data: Departmental faculty

2. Perform surfacing (pad) welds in the horizontal, vertical and overhead positions using the SMAW process.

Assessment 1

Assessment Tool: Welded Samples

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

Course section(s)/other population: ALL

Number students to be assessed: ALL

How the assessment will be scored: The welds will be scored as pass or fail in meeting AWS D1.1 code.

Standard of success to be used for this assessment: 80% of students will create passing welds in accordance with AWS D1.1 code.

Who will score and analyze the data: Department Faculty

3. Weld groove, lap, tee and corner joints using multiple passes in the horizontal, vertical and overhead positions with the SMAW process.

Assessment 1

Assessment Tool: Welded samples

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: The welds will be scored as pass or fail in meeting AWS D1.1 code.

Standard of success to be used for this assessment: 80% of students will create passing welds in accordance with AWS D1.1 code.

Who will score and analyze the data: Department faculty

4. Weld structural shapes in the horizontal and vertical positions using multiple passes with the SMAW process.

Assessment 1

Assessment Tool: Welded Samples
 Assessment Date: Spring/Summer 2019
 Assessment Cycle: Every Three Years
 Course section(s)/other population: All
 Number students to be assessed: All
 How the assessment will be scored: The welds will be scored as pass or fail in meeting AWS D1.1 code.
 Standard of success to be used for this assessment: 80% of students will create passing welds in accordance with AWS D1.1 code.
 Who will score and analyze the data: Department Faculty

5. Weld pipe in the 1GR and 2F/G positions using the SMAW process.

Assessment 1

Assessment Tool: Welded Samples
 Assessment Date: Fall 2019
 Assessment Cycle: Every Three Years
 Course section(s)/other population: All
 Number students to be assessed: All
 How the assessment will be scored: The welds will be scored as pass or fail in meeting AWS D1.1 code.
 Standard of success to be used for this assessment: 80% of students will create passing welds in accordance with AWS D1.1 code.
 Who will score and analyze the data: Department Faculty

Course Objectives

1. Safely setup SMAW equipment.
2. Perform surfacing (pad) welds using E6010 and E7018 electrodes in the horizontal, vertical and overhead positions on carbon steel plate.
3. Weld groove, lap, tee and corner welds in the flat and horizontal positions using multiple passes with E6010 and E7018 electrodes on carbon steel plate.
4. Weld groove, lap, tee and corner welds in the vertical and overhead positions using multiple passes with E6010 and E7018 electrodes on carbon steel plate.
5. Weld structural shapes in the horizontal and vertical positions using multiple passes with E6010 and E7018 electrodes on carbon steel.
6. Weld pipe in the 1GR and 2F/G positions using E6010 and E7018 electrodes.
7. Weld a tee and corner joint using E6010 and E6011 electrodes in the horizontal and vertical positions on 14 gauge carbon steel.
8. Identify SMAW welding vocabulary and theory.
9. Apply electrode appropriate techniques to various weldments.

New Resources for Course

Course Textbooks/Resources

Textbooks
 Manuals
 Periodicals
 Software

Equipment/Facilities

Level III classroom

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Amanda Scheffler</i>	<i>Faculty Preparer</i>	<i>Aug 30, 2015</i>
Department Chair/Area Director: <i>Glenn Kay II</i>	<i>Recommend Approval</i>	<i>Aug 30, 2015</i>

Dean: <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Oct 06, 2015</i>
Curriculum Committee Chair: <i>Kelley Gottschang</i>	<i>Recommend Approval</i>	<i>Nov 30, 2015</i>
Assessment Committee Chair: <i>Michelle Garey</i>	<i>Recommend Approval</i>	<i>Dec 07, 2015</i>
Vice President for Instruction: <i>Michael Nealon</i>	<i>Approve</i>	<i>Dec 14, 2015</i>