

# Washtenaw Community College Comprehensive Report

## WAF 125 Introduction to Welding Processes I Effective Term: Fall 2016

### Course Cover

**Division:** Advanced Technologies and Public Service Careers

**Department:** Welding and Fabrication

**Discipline:** Welding and Fabrication

**Course Number:** 125

**Org Number:** 14600

**Full Course Title:** Introduction to Welding Processes I

**Transcript Title:** Intro to Weld Processes I

**Is Consultation with other department(s) required:** No

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

**Reason for Submission:** New Course

**Change Information:**

**Rationale:** This course is being created to update the WAF program so it meets current industry needs.

**Proposed Start Semester:** Fall 2016

**Course Description:** In this course, students are given an introduction to the following welding processes: Oxy-Fuel Welding (OFW), Oxy-Fuel Cutting (OFC), Brazing, Gas Tungsten Arc Welding (GTAW) on carbon steel, aluminum, stainless steel plate and sheet metal. This will include the Flat (1G/F) and horizontal (2G/F) positions. Surfacing (Pad welding) will also be performed in the GTAW process.

### Course Credit Hours

**Variable hours:** No

**Credits:** 2

**Lecture Hours: Instructor:** 15 **Student:** 15

**Lab: Instructor:** 45 **Student:** 45

**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 60 **Student:** 60

**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

### Requisites

**Prerequisite**

WAF 109 minimum grade "C"; allow concurrent enrollment

### General Education

### Request Course Transfer

**Proposed For:**

## Student Learning Outcomes

1. Recognize and apply welding vocabulary.

### **Assessment 1**

Assessment Tool: Written exam

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. Recognize and interpret welding theory.

### **Assessment 1**

Assessment Tool: Written exam

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

3. Safely perform a groove, lap and tee weld on steel in the flat and horizontal positions with the OFW 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 the D1.1 AWS welding code.

Standard of success to be used for this assessment: 80% of students will create welds in accordance with AWS welding codes.

Who will score and analyze the data: Departmental faculty

4. Safely perform a groove, lap and tee weld in the flat and horizontal positions on carbon steel, stainless steel and aluminum with the GTAW 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 applicable AWS welding codes.

Standard of success to be used for this assessment: 80% of students will create welds in accordance with AWS welding codes.

Who will score and analyze the data: Departmental faculty

## Course Objectives

1. Recall and demonstrate proper safety measures with Oxy-fuel equipment.
2. Properly set up Oxy-fuel equipment for use.
3. Recall and demonstrate proper safety measures with GTAW equipment.
4. Properly set up GTAW equipment for use on steel and aluminum.
5. Run a bead on steel sheet metal with the OFW process.
6. Weld a groove weld on steel sheet metal in the flat and horizontal positions with the OFW process.
7. Weld a lap joint on steel sheet metal in the flat and horizontal positions with the OFW process.
8. Weld a tee joint on steel sheet metal in the flat and horizontal positions with the OFW process.
9. Braze a groove joint on steel sheet metal in the flat and horizontal positions.
10. Perform straight, beveled and circular cuts on steel plate with OFC equipment.
11. Weld a groove joint on carbon steel, stainless steel and aluminum in the flat and horizontal positions with the GTAW process.
12. Weld a lap joint on carbon steel, stainless steel and aluminum in the flat and horizontal positions with the GTAW process.
13. Weld a tee joint on carbon steel, stainless steel and aluminum in the flat and horizontal positions with the GTAW process.
14. Perform a surfacing weld on steel plate in the flat position with the GTAW process.

## New Resources for Course

### Course Textbooks/Resources

Textbooks  
Manuals  
Periodicals  
Software

### Equipment/Facilities

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
<b>Faculty Preparer:</b> <i>Amanda Scheffler</i>	<i>Faculty Preparer</i>	<i>Aug 30, 2015</i>
<b>Department Chair/Area Director:</b> <i>Glenn Kay II</i>	<i>Recommend Approval</i>	<i>Aug 30, 2015</i>
<b>Dean:</b> <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Oct 06, 2015</i>
<b>Curriculum Committee Chair:</b> <i>Kelley Gottschang</i>	<i>Recommend Approval</i>	<i>Nov 30, 2015</i>
<b>Assessment Committee Chair:</b> <i>Michelle Garey</i>	<i>Recommend Approval</i>	<i>Dec 07, 2015</i>
<b>Vice President for Instruction:</b> <i>Michael Nealon</i>	<i>Approve</i>	<i>Dec 14, 2015</i>