

## Washtenaw Community College Comprehensive Report

### WAF 106 Welding Print Reading Effective Term: Spring/Summer 2022

#### Course Cover

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

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

**Department:** Welding and Fabrication

**Discipline:** Welding and Fabrication

**Course Number:** 106

**Org Number:** 14600

**Full Course Title:** Welding Print Reading

**Transcript Title:** Welding Print Reading

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

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

**Reason for Submission:** Three Year Review / Assessment Report

**Change Information:**

**Consultation with all departments affected by this course is required.**

**Outcomes/Assessment**

**Objectives/Evaluation**

**Rationale:** Three year master syllabus update based upon assessment report.

**Proposed Start Semester:** Fall 2021

**Course Description:** In this course, students are introduced to print reading and drafting fundamentals and concepts. Students will learn to recognize and apply key terms, line types, dimensioning and tolerances and the different orthographic views while becoming skilled at interpreting AWS A2.4 standard symbols for welding, brazing and non-destructive examination.

#### Course Credit Hours

**Variable hours:** No

**Credits:** 3

**Lecture Hours: Instructor:** 30 **Student:** 30

**Lab: Instructor:** 30 **Student:** 30

**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

No Level Required

#### Requisites

**Prerequisite**

WAF 125 minimum grade "C" allow concurrent enrollment or WAF 126 minimum grade "C" allow

concurrent enrollment

## **General Education**

### **Request Course Transfer**

#### **Proposed For:**

Eastern Michigan University

Ferris State University

Wayne State University

Other : [Pennsylvania College of Technology](#)

### **Student Learning Outcomes**

1. Recognize fundamental components and terminology associated with weld print reading.

#### **Assessment 1**

Assessment Tool: Outcome-related written exam questions

Assessment Date: Fall 2024

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 and departmentally-developed rubric

Standard of success to be used for this assessment: 75% of students will score 70% or higher.

Who will score and analyze the data: Departmental Faculty

2. Read, interpret and sketch weld prints and joint designs based upon American Welding Society standards.

#### **Assessment 1**

Assessment Tool: Outcome-related written exam questions

Assessment Date: Fall 2024

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 and departmentally-developed rubric

Standard of success to be used for this assessment: 75% of students will score 70% or higher

Who will score and analyze the data: Department faculty

3. Interpret Weld Procedure Specification (WPS) and how they apply to weldments

#### **Assessment 1**

Assessment Tool: Assembled project

Assessment Date: Fall 2024

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed rubric

Standard of success to be used for this assessment: 75% of students will score an average of 70% or higher

Who will score and analyze the data: Departmental faculty

### **Course Objectives**

1. Identify types and functions of lines on orthographic and isometric drawings.
2. Identify symbols, notes, specifications and abbreviations on working prints and drawings.
3. Recognize the use of tolerances and dimensions on a weld print.
4. Differentiate and apply welding symbols in accordance with American Welding Society (AWS) standards.
5. Perform conversions between metric standards and U.S. standards.

6. Identify weld symbols on a print reflecting different material structures.
7. Recognize symbols for destructive and non-destructive testing.
8. Create, construct and assemble basic joint designs in accordance with weld print specifications.
9. Interpret and apply a Weld Procedure Specification (WPS) for an assembled project.
10. Create sketches and conventional drafts of orthographic and isometric section views of an object.

## New Resources for Course

### Course Textbooks/Resources

#### Textbooks

Proctor, T., E.; Gosse, J., F.. *Printreading for Welders*, Fifth ed. American Technical Publishers, 2014, ISBN: 9780826930712.

#### Manuals

#### Periodicals

#### Software

### Equipment/Facilities

Level III classroom

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
<b>Faculty Preparer:</b> <i>Glenn Kay II</i>	<i>Faculty Preparer</i>	<i>Aug 11, 2021</i>
<b>Department Chair/Area Director:</b> <i>Alexander Pazkowski</i>	<i>Recommend Approval</i>	<i>Aug 12, 2021</i>
<b>Dean:</b> <i>Jimmie Baber</i>	<i>Recommend Approval</i>	<i>Aug 19, 2021</i>
<b>Curriculum Committee Chair:</b> <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>Dec 14, 2021</i>
<b>Assessment Committee Chair:</b> <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Jan 30, 2022</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Jan 30, 2022</i>

# Washtenaw Community College Comprehensive Report

## WAF 106 Welding Print Reading Effective Term: Fall 2016

### Course Cover

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

**Department:** Welding and Fabrication

**Discipline:** Welding and Fabrication

**Course Number:** 106

**Org Number:** 14600

**Full Course Title:** Welding Print Reading

**Transcript Title:** Welding Print Reading

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

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

**Reason for Submission:** Three Year Review / Assessment Report

**Change Information:**

Course title

Course description

Outcomes/Assessment

Objectives/Evaluation

Other:

**Rationale:** Updating course to meet new program requirements.

**Proposed Start Semester:** Fall 2016

**Course Description:** In this course, students are introduced to print reading and drafting fundamentals and concepts. Students will learn to recognize and apply key terms, line types, dimensioning and tolerances and the different orthographic views while becoming skilled at interpreting AWS A2.4 standard symbols for welding, brazing and non-destructive examination. The title of this course was previously Blueprint Reading for Welders.

### Course Credit Hours

**Variable hours:** No

**Credits:** 3

**Lecture Hours: Instructor: 30 Student: 30**

**Lab: Instructor: 30 Student: 30**

**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

Level 1

### Requisites

**Prerequisite**

WAF 125 minimum grade "C" allow concurrent enrollment or WAF 126 minimum grade "C"

allow concurrent enrollment

## **General Education**

### **Request Course Transfer**

#### **Proposed For:**

Eastern Michigan University

Ferris State University

Other : [Pennsylvania College of Technology](#)

### **Student Learning Outcomes**

1. Identify basic lines, views, welding symbols, title boxes, material lists and notes, specifications and dimensions on a 2 and 3 dimensional welding blueprint.

#### **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. Interpret CAD drawings, create sketches and conventional drafts of orthographic, surface and section views.

#### **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 and rubric

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

Who will score and analyze the data: Departmental faculty

3. Create, read and interpret blueprints using both AWS and ISO standards.

#### **Assessment 1**

Assessment Tool: Welded project

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: Departmentally-developed rubric

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

Who will score and analyze the data: Departmental faculty

#### **Assessment 2**

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 an average of 80% or higher.

Who will score and analyze the data: Departmental Faculty

4. Create, construct and weld basic joint designs in accordance with blueprint specifications.

**Assessment 1**

Assessment Tool: Lab assignment

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: Rubric

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

Who will score and analyze the data: Departmental Faculty

5. Interpret weld procedure specifications (WPS) and apply to weldments.

**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 an average of 80% or higher.

Who will score and analyze the data: Departmental faculty

**Assessment 2**

Assessment Tool: Lab assignment

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: Rubric

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

Who will score and analyze the data: Departmental faculty

**Course Objectives**

1. Identify types and functions of lines on orthographic (2D and 3D) views.
2. Identify symbols, notes, specifications and abbreviations on working prints and drawings.
3. Recognize functions of tolerances and dimensions on a print.
4. Differentiate and apply AWS and ISO standards to prints.
5. Perform conversions between metric standards and U.S. standards.
6. Identify different types of lines on a drawing and their uses.
7. Identify weld symbols on a print reflecting different material structures.
8. Interpret multiple weld symbols and their meaning and apply in accordance with the sequence of operations given.
9. Recognize symbols for destructive and non-destructive testing.
10. Create, construct and weld basic joint designs in accordance with blueprint specifications.
11. Interpret and apply a WPS for a welded assembly.
12. Create sketches and conventional drafts of oblique, orthographic, isometric and section views of an object.

**New Resources for Course**

**Course Textbooks/Resources**

Textbooks

Kevin Corgan. *Print Reading for Welding and Fabrication*, ed. Prentice Hall PTR, 2010, ISBN: 978-0-13-5028.

A.E. Bennett and Louis Siy. *Blueprint Reading for Welders*, 8th ed. New York: Delmar, Cengage Learning, 2009, ISBN: 1-4283-3528-5.

Manuals

Periodicals

Software

**Equipment/Facilities**

Level III classroom

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<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>