

# Washtenaw Community College Comprehensive Report

## IWT 217 National Welding Certification Program of North America Conditional Approval Effective Term: Fall 2011

### Course Cover

**Division:** Vocational Technologies

**Department:** United Association Department

**Discipline:** Ironworker Instructor Training

**Course Number:** 217

**Org Number:** 28700

**Full Course Title:** National Welding Certification Program of North America

**Transcript Title:** National Welding Certification

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

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

**Reason for Submission:** New Course

**Change Information:**

**Rationale:** This course is part of the Ironworker ITP.

**Proposed Start Semester:** Fall 2011

**Course Description:**

Using Miller and Smith Equipment, the participants will have the opportunity to test and inspect various National SMAW, FCAW, and GTAW welding procedures on plate and pipe. Upon successful completion of each test, the participant will receive a corresponding National Welder Certificate and identification card. GTAW and GMAW-P will be introduced on miscellaneous metals. Participants who are certified welders will learn advanced inverter technology, troubleshooting welding equipment and systems, and multi-process use of newer equipment. Limited to Ironworker Instructor Training program participants.

### Course Credit Hours

**Variable hours:** No

**Credits:** 3

**The following Lecture Hour fields are not divisible by 15: Student Min ,Instructor Min**

**Lecture Hours: Instructor: 22.5 Student: 22.5**

**The following Lab fields are not divisible by 15: Student Min, Instructor Min**

**Lab: Instructor: 22.5 Student: 22.5**

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

**Total Contact Hours: Instructor: 45 Student: 45**

**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

### General Education

## Degree Attributes

Below College Level Pre-Reqs

## Request Course Transfer

Proposed For:

## Student Learning Outcomes

1. Set up and demonstrate welding techniques.

### **Assessment 1**

**Assessment Tool:** Survey of Ironworker training coordinators/supervisors.

**Assessment Date:** Fall 2012

**Assessment Cycle:** Every Two Years

**Course section(s)/other population:** All

**Number students to be assessed:** Random sampling of 50% of all students teaching related topics the subsequent year.

**How the assessment will be scored:** The student's training activities at the home local will be scored and evaluated on a survey questionnaire covering the learning outcomes.

**Standard of success to be used for this assessment:** Based on the number of students who teach the related material in the subsequent year, 75% will score an average of satisfactory or better.

**Who will score and analyze the data:** The UA Program Administrator will coordinate the collection of data with the Ironworker Training Department and will discuss the results with the Ironworker Training Department and IWT faculty.

2. Deliver safety and other welding related lecture material.

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**Who will score and analyze the data:** The UA Program Administrator will coordinate the collection of data with the Ironworker Training Department and will discuss the results with the Ironworker Training Department and IWT faculty.

3. Effectively use the Ironworker and vendor training materials.

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students who teach the related material in the subsequent year, 75% will score an average of satisfactory or better.

**Who will score and analyze the data:** The UA Program Administrator will coordinate the collection of data with the Ironworker Training Department and will discuss the results with the Ironworker Training Department and IWT faculty.

## **Course Objectives**

1. Set up and demonstrate welding equipment to test and inspect National SMAW, FCAW, and GTAW welding procedures on plate and pipe

**Methods of Evaluation**  
**Matched Outcomes**

2. Set up and demonstrate inspections of GTAW and GMAW-P procedures on various metals

**Methods of Evaluation**  
**Matched Outcomes**

3. Set up and demonstrate inverter technology, troubleshooting welding equipment and systems, and multi-process uses of equipment.

**Methods of Evaluation**  
**Matched Outcomes**

4. Successfully complete tests to earn National Welder Certificates and identification cards

**Methods of Evaluation**  
**Matched Outcomes**

5. Explain safety precautions and regulations that apply to SMAW, FCAW, and GTAW welding procedures

**Methods of Evaluation**  
**Matched Outcomes**

6. Describe the processes used in GTAW and GMAW-P technology

**Methods of Evaluation**  
**Matched Outcomes**

7. Describe the processes used in inverter technology

**Methods of Evaluation**  
**Matched Outcomes**

8. Explain ways to use equipment in multi-processes

**Methods of Evaluation  
Matched Outcomes**

9. Explain the step-by-step procedures used in troubleshooting welding equipment and systems

**Methods of Evaluation  
Matched Outcomes**

10. Reference Ironworker and vendor supplied manuals during lectures and demonstrations

**Methods of Evaluation  
Matched Outcomes**

11. Apply Ironworker and vendor training material guidelines and concepts

**Methods of Evaluation  
Matched Outcomes**

**New Resources for Course**

All required materials will be provided by the Ironworker Training Department.

**Course Textbooks/Resources**

Textbooks  
Manuals  
Periodicals  
Software

**Equipment/Facilities**

Level III classroom  
Other: Welding Lab

**Reviewer**

**Action**

**Date**

**Faculty Preparer:**

*Faculty Preparer*

*May 05,  
2011*

**Department Chair/Area Director:**  
*Daniel Welch*

*Recommend Approval*

*May 05,  
2011*

**Dean:** *Daniel Welch*

*Request Conditional Approval*

*May 05,  
2011*

**Vice President for Instruction:** *Stuart  
Blacklaw*

*Conditional Approval*

*May 06,  
2011*