

Washtenaw Community College Comprehensive Report

UAT 249 ARC Welding Practical Fundamentals and Theory (UA 8002) Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: United Association Department

Discipline: United Association Training

Course Number: 249

Org Number: 28200

Full Course Title: ARC Welding Practical Fundamentals and Theory (UA 8002)

Transcript Title: ARC Weld Practical Fund 8002

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Web Page

Reason for Submission: Course Change

Change Information:

Consultation with all departments affected by this course is required.

Course title

Course description

Outcomes/Assessment

Objectives/Evaluation

Rationale: Updating United Association course

Proposed Start Semester: Fall 2020

Course Description: In this course, students will identify and review arc welding techniques and practical applications used to develop a welder training program. Students will incorporate online learning resources and visual training aids for classroom and hands-on demonstrations. They will identify welding theory, available equipment, electrode AWS (American Welding Society) classifications, process definitions and selection. The title of this course was previously Methods in Teaching Arc Welding. Limited to United Association program participants.

Course Credit Hours

Variable hours: No

Credits: 1.5

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: 1.5 Student: 1.5

Clinical: Instructor: 0 Student: 0

Total Contact Hours: Instructor: 24 Student: 24

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. Demonstrate ARC welding techniques and practical applications for developing local training programs.

Assessment 1

Assessment Tool: Skills demonstration

Assessment Date: Fall 2020

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Skills checklist

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

Who will score and analyze the data: U.A. instructors

2. Prepare and present an activity and a lesson plan from UA welding instructional resources for use at the student's local Training Center.

Assessment 1

Assessment Tool: Presentation

Assessment Date: Fall 2020

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Observational checklist

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

Who will score and analyze the data: U.A. instructors

Course Objectives

1. Develop concepts and strategies needed to teach apprentices the theories and principles of welding and metallurgy on carbon steel, stainless steel, and aluminum.
2. Develop concepts and strategies needed to instruct apprentices on various welding processes, such as shielded metal arc welding (SMAW), gas tungsten arc welding (GTAW), gas metal arc welding (GMAW), and flux core arc welding (FCAW).
3. Demonstrate how to cut and weld using oxy-fuel equipment.
4. Develop concepts and strategies needed to teach apprentices how to program welding equipment for production welding and performance qualifications.
5. Discuss best practices in delivering welding theory concepts.
 6. Demonstrate training techniques for SMAW, GMAW and GTAW.
7. Discuss and demonstrate current welding technology and equipment.
8. Access, navigate, and discuss student use of United Association Online Learning Resources (UAOLR) and Blackboard.
 9. Practice using webbooks, assessments, and other arc welding instructional resources and customization for the student's local Training Center.

10. Prepare and present an instructional activity using UA welding resources.

New Resources for Course

Course Textbooks/Resources

Textbooks

International Association of Plumbing and Mechanical Officials. *ARC Welding Practical Fundamentals and Theory*, first ed. IAPMO Group, 2016

Manuals

Periodicals

Software

Equipment/Facilities

Level III classroom

Other: 230/460 1/3PH Power outlets, 3 of them

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Tony Esposito</i>	<i>Faculty Preparer</i>	<i>Jun 04, 2020</i>
Department Chair/Area Director: <i>Marilyn Donham</i>	<i>Recommend Approval</i>	<i>Jun 05, 2020</i>
Dean: <i>Jimmie Baber</i>	<i>Recommend Approval</i>	<i>Jun 09, 2020</i>
Curriculum Committee Chair: <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Aug 13, 2020</i>
Assessment Committee Chair: <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Aug 25, 2020</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Aug 26, 2020</i>