

Washtenaw Community College Comprehensive Report

WAF 124 Advanced Shielded Metal Arc Welding Effective Term: Winter 2012

Course Cover

Division: Vocational Technologies

Department: Welding and Fabrication

Discipline: Welding and Fabrication

Course Number: 124

Org Number: 14610

Full Course Title: Advanced Shielded Metal Arc Welding

Transcript Title: Adv 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: Three Year Review / Assessment Report

Change Information:

Course title

Course description

Pre-requisite, co-requisite, or enrollment restrictions

Outcomes/Assessment

Objectives/Evaluation

Rationale: Regular three year review

Proposed Start Semester: Winter 2012

Course Description: This course covers the SMAW process using AC (Alternating Current) and DCEP (Direct Current Electrode Positive). Welding theories of various weld joints in the horizontal, vertical and overhead positions and tubular materials are addressed. This class also includes instruction and practice on more advanced welding techniques, electrode classification, electrode identification, proper applications as well as welding codes and standards in the welding industry. The title of this course was previously Welding IV Advanced ARC (SMAW).

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

Requisites

Prerequisite

Academic Reading and Writing Levels of 6

Prerequisite

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 2012

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 90% 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 2012

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 90% or higher

Who will score and analyze the data: Departmental faculty

3. Shielded metal arc weld a butt, lap and tee joint in the vertical and overhead positions.

Assessment 1

Assessment Tool: Welded samples

Assessment Date: Fall 2012

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 welds in accordance with AWS D1.1 code.

Who will score and analyze the data: Departmental faculty

4. Shielded metal arc weld tubular joints in the horizontal, vertical and angled positions.

Assessment 1

Assessment Tool: Welded samples

Assessment Date: Fall 2012

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 welds in accordance with AWS D1.1 code.

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Demonstrate proper safety procedures.

Matched Outcomes

2. Demonstrate proper welding procedures.

Matched Outcomes

3. Use proper safety and welding procedures.

Matched Outcomes

4. Weld a square groove joint on 1/4" steel in the horizontal, vertical and overhead positions with E6010 and E7018.

Matched Outcomes

5. Weld a V-groove on 1/4" steel with and without backing in the horizontal, vertical and overhead positions with E6010 and E7018.

Matched Outcomes

6. Weld a tee and lap joint on 1/4" steel in the horizontal, vertical and overhead positions with E6010 and E7018.

Matched Outcomes

7. Weld a tee and lap joint on 1/2" steel in the horizontal, vertical and overhead positions with E6010 and E7018.

Matched Outcomes

8. Weld a V-groove on 1/2" steel with and without backing in the horizontal position with E6010 and E7018.

Matched Outcomes

9. Weld a 1/4" steel V-groove in the vertical down position with E6010 and E6011 achieving 100% penetration.

Matched Outcomes

10. Weld 6" sch. 40 steel tubing in the 2G position with E6010 and E7018.

Matched Outcomes

11. Weld 6" sch. 40 steel tubing in the 5G position with E6010 and E7018.

Matched Outcomes

12. Weld 6" sch. 40 steel tubing in the 5G position with E6010 in the vertical down position.

Matched Outcomes

13. Weld 6" sch. 40 steel tubing in the 6G position with E6010 and E7018.

Matched Outcomes

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

Reviewer

Action

Date

Faculty Preparer:

Amanda Scheffler

Faculty Preparer

Aug 08, 2011

Department Chair/Area Director:

Glenn Kay II

Recommend Approval

Oct 05, 2011

Dean:

Ross Gordon

Recommend Approval

Oct 18, 2011

Vice President for Instruction:

Stuart Blacklaw

Approve

Nov 15, 2011