

Washtenaw Community College Comprehensive Report

WAF 289 Gas Metal Arc Welding Effective Term: Fall 2012

Course Cover

Division: Vocational Technologies

Department: Welding and Fabrication

Discipline: Welding and Fabrication

Course Number: 289

Org Number: 14610

Full Course Title: Gas Metal Arc Welding

Transcript Title: Gas 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: Fall 2012

Course Description: This course focuses on gas metal arc welding (GMAW), which is more commonly known as metal inert gas (MIG) welding. Welding is done on steel with solid and flux cored wires in various positions. Welding theories and proper welding techniques are addressed along with filler metal classification, identification and proper selection for specific applications. The title of this course was previously MIG Welding.

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
and

Prerequisite

WAF 105 minimum grade "C"; may enroll concurrently

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. Gas metal arc weld a butt, lap and tee joint in the basic flat and horizontal 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 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. Gas metal arc weld a butt, lap and tee joint in the advanced 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 accordance with 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. Properly set-up GMAW equipment for use.

Matched Outcomes

2. Demonstrate safe welding and equipment operating procedures.

Matched Outcomes

3. Run a bead in all positions on 1/4" and 14 GA steel with solid wire.

Matched Outcomes

4. Weld a butt, lap, tee and corner joint on 1/4" and 14 GA steel in the flat position with solid wire.

Matched Outcomes

5. Weld a butt, lap, tee and corner joint on 1/4" and 14 GA steel in the horizontal position with solid wire.

Matched Outcomes

6. Weld a butt, lap, tee and corner joint on 1/4" and 14 GA steel in the vertical position with solid wire.

Matched Outcomes

7. Weld a butt, lap, tee and corner joint on 1/4" and 14 GA steel in the overhead position with solid wire.

Matched Outcomes

8. Weld a V-groove joint on 1/2" steel in the horizontal, vertical and overhead positions with solid wire.

Matched Outcomes

9. Run a stringer and a weave bead in the flat position on 1/4" steel with flux cored wire.

Matched Outcomes

10. Weld a butt, lap and tee joint on 1/4" steel in the flat position with flux cored wire.

Matched Outcomes

11. Demonstrate the understanding of MIG welding equipment by trouble shooting and correcting common problems with MIG welding equipment.

Matched Outcomes

12. Explain the differences between the GMAW transfers.

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