Washtenaw Community College Comprehensive Report

WAF 140 Inspection and Testing
Effective Term: Fall 2016

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: Welding and Fabrication
Discipline: Welding and Fabrication
Course Number: 140
Org Number: 14600
Full Course Title: Inspection and Testing
Transcript Title: Inspection and Testing
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: New Course
Change Information:
Rationale: This course is being created to update the WAF program so it meets current industry needs.
Proposed Start Semester: Fall 2016
Course Description: In this course, students are introduced to the most common types of weld inspection and testing methods. Destructive testing methods include bend tests, tensile pulls, charpy V notch and macro etch tests with non-destructive methods focusing on visual, dye penetrant, ultrasonic, magnetic particle and radiographic testing. Welding code acceptance criteria will be interpreted and applied to testing methods where applicable.

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 109 minimum grade "C"
and
Prerequisite
WAF 125 minimum grade "C"
and

Prerequisite
WAF 126 minimum grade "C"

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Interpret visual acceptance criteria per applicable code.
   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. Perform and interpret data from an ultrasonic test.
   Assessment 1
   Assessment Tool: Lab activity with report
   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: Skill checklist with rubric
   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

3. Perform magnetic particle test and interpret resulting data.
   Assessment 1
   Assessment Tool: Lab activity
   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: Skill checklist with rubric
   Standard of success to be used for this assessment: 80% of students will score 80% of higher.
   Who will score and analyze the data: Departmental faculty

4. Perform radiographic test and interpret resulting data.
   Assessment 1
   Assessment Tool: Lab activity with report
   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: Skill checklist with rubric
   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

5. Perform destructive test on a welded sample and analyze results.
   Assessment 1
   Assessment Tool: Lab activity with report
   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: Skill checklist with rubric
   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

Course Objectives

1. Perform a visual examination on a welded sample prior to other examination methods.
2. Perform radiographic examination on a welded sample.
3. Analyze the results of a radiographic test on a welded sample.
4. Perform an ultrasonic examination on a welded sample.
5. Analyze the results of an ultrasonic test on a welded sample.
6. Perform a magnetic particle test on a welded sample.
7. Analyze the results of a magnetic particle test on a welded sample.
8. Perform a dye penetrant test on a welded sample.
9. Analyze the results of a dye penetrant test on a welded sample.
10. Perform a Charpy V notch test on a welded sample.
11. Analyze the results of a Charpy V notch test on a welded sample.
12. Perform a tensile pull test on a welded sample.
13. Analyze the results of a tensile pull test.
14. Perform a bend test on a welded sample.
15. Analyze the results of a bend test on a welded sample.
16. Identify the visual acceptance criteria of a welding code.
17. Identify and perform safe work practices.

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 30, 2015*
Department Chair/Area Director:		
Glenn Kay II	*Recommend Approval*	*Aug 30, 2015*
Dean:		
Brandon Tucker	*Recommend Approval*	*Oct 06, 2015*
Curriculum Committee Chair:		
Kelley Gottschang	*Recommend Approval*	*Dec 01, 2015*
Assessment Committee Chair:		

Michelle Garey	*Recommend Approval*	*Dec 01, 2015*

Vice President for Instruction:

Michael Nealon	*Approve*	*Dec 14, 2015*