

Washtenaw Community College Comprehensive Report

WAF 200 Layout Theory Welding Conditional Approval Effective Term: Winter 2015

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: Welding and Fabrication

Discipline: Welding and Fabrication

Course Number: 200

Org Number: 14610

Full Course Title: Layout Theory Welding

Transcript Title: Layout Theory 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:

Consultation with all departments affected by this course is required.

Course description

Total Contact Hours

Pre-requisite, co-requisite, or enrollment restrictions

Outcomes/Assessment

Objectives/Evaluation

Rationale: Course content needs to be updated to reflect the new objectives being used in the course.

Proposed Start Semester: Winter 2014

Course Description: In this course, students will be introduced to and practice the basics of layout theory. Students will learn various methods, processes, and tools used in welding and use traditional methods and modern software applications to layout and create objects. Students will solve problems using CAD software to produce orthographic and isometric plans and models.

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 2

Requisites

Prerequisite

WAF 111 minimum grade "B"
and

Prerequisite

WAF 106 minimum grade "B"

General Education

Request Course Transfer

Proposed For:

Eastern Michigan University

Ferris State University

Other : [Pennsylvania College of Technology](http://www.pennsylvania-college-of-technology.edu/)

Student Learning Outcomes

1. Identify shop tools, shop equipment and safety requirements.

Assessment 1

Assessment Tool: Final project

Assessment Date: Winter 2017

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed rubric

Standard of success to be used for this assessment: 75% of students will score an average of 80% or higher.

Who will score and analyze the data: Departmental faculty

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.

Assessment 1

Assessment Tool: Final project

Assessment Date: Winter 2017

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed rubric

Standard of success to be used for this assessment: 75% of students will score an average of 80% or higher.

Who will score and analyze the data: Departmental faculty

Assessment 2

Assessment Tool: Written exam

Assessment Date: Winter 2017

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: 75% of students will score an average of 80% or higher.

Who will score and analyze the data: Department faculty

3. Convert 2D layouts into 3D forms.

Assessment 1

Assessment Tool: Final project

Assessment Date: Winter 2017

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed rubric

Standard of success to be used for this assessment: 75% of students will score an average of 80% or higher.

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Recognize and apply shop safety rules.

Matched Outcomes

1. Identify shop tools, shop equipment and safety requirements.
2. Use traditional tools and modern software applications to layout and create objects.

Matched Outcomes

1. Identify shop tools, shop equipment and safety requirements.
2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
3. Convert 2D layouts into 3D forms.
3. Solve a variety of fabrication problems by identifying the most appropriate welding process, selecting from GMAW transfers, GTAW, SMAW, and FCAW.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
4. Identify layout and measuring tools to perform layout, fitting, and tacking on a project.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
5. Cut out patterns and transfer to sheet metal stock using several tools and methods.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
3. Convert 2D layouts into 3D forms.
6. Find unknown measurements using several layout methodologies.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
7. Recognize and perform basic dimensioning in English and Metric units using CAD or other software.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
3. Convert 2D layouts into 3D forms.
8. Fabricate designated projects using tools in accordance with plans.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
3. Convert 2D layouts into 3D forms.
9. Apply radial line development and triangulation to drawings of 2D layouts.

Matched Outcomes

2. Solve welding problems using mathematics and layout methods including center line and directional measurement.
3. Convert 2D layouts into 3D forms.

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals

Software

Equipment / Facilities

Level III classroom

Reviewer

Action

Date

Faculty Preparer:

Coley McLean

Faculty Preparer

Mar 18, 2014

Department Chair / Area Director:

Glenn Kay II

Forward Not Recommended

Apr 14, 2014

Dean:

Marilyn Donham

Recommend Approval

Apr 17, 2014

Vice President for Instruction:

Bill Abernethy

Conditional Approval

Apr 21, 2014