

Washtenaw Community College Comprehensive Report

WAF 120 Ironworker Pre-Apprenticeship Print Reading and Contextualized Math Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: Welding and Fabrication

Discipline: Welding and Fabrication

Course Number: 120

Org Number: 14600

Full Course Title: Ironworker Pre-Apprenticeship Print Reading and Contextualized Math

Transcript Title: Ironworker Math and Print Read

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Web Page

Reason for Submission:

Change Information:

Rationale: New course to align with the needs of the Ironworkers Pre-Apprenticeship Certificate.

Proposed Start Semester: Winter 2020

Course Description: In this course, the pre-apprentice is provided with training in various line types and symbols used in construction drawings such as steel frame construction, architectural, engineering and specialty drawings used by the ironworker trade. The math portion of this course will present relevant math formulas, math problems, measurements with specified layout tools. Basic fraction problem-solving and conversions required in the ironworker trades will be reviewed. This course is required for the Ironworkers Pre-Apprenticeship Certificate.

Course Credit Hours

Variable hours: No

Credits: 2

Lecture Hours: Instructor: 15 **Student:** 15

Lab: Instructor: 45 **Student:** 45

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

Reduced Reading/Writing Scores

College-Level Math

No Level Required

Requisites

Prerequisite

Academic Reading Level 3, Academic Writing Level 2

General Education

Degree Attributes

Below College Level Pre-Reqs

Request Course Transfer**Proposed For:****Student Learning Outcomes**

1. Recognize construction print symbols, abbreviations, lines and components.

Assessment 1

Assessment Tool: Outcome-related exam questions

Assessment Date: Fall 2023

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: 70% of students will score 70% or higher

Who will score and analyze the data: Departmental faculty

2. Identify two of the basic systems of measurement used by Ironworkers.

Assessment 1

Assessment Tool: Outcome-related exam questions

Assessment Date: Fall 2023

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: 70% of students will score 70% or above

Who will score and analyze the data: Departmental faculty

3. Perform basic calculations using fractions and decimals by means of addition, subtraction, multiplication, and division.

Assessment 1

Assessment Tool: Outcome-related exam questions

Assessment Date: Fall 2023

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: 70% of students will score 70% or higher

Who will score and analyze the data: Departmental faculty

4. Solve basic geometric equations used by the construction trades.

Assessment 1

Assessment Tool: Outcome-related exam questions

Assessment Date: Fall 2023

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: 70% of students will score 70% or higher

Who will score and analyze the data: Departmental faculty

5. Perform basic calculations that incorporate percentages and averages, exponents and roots, ratio and proportion, as well as problems that include basic knowledge of calculating area and volume.

Assessment 1

Assessment Tool: Outcome-related exam questions

Assessment Date: Fall 2023

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: 70% of students will score 70% or above

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Unit 3: Describe the fundamentals of common fractions.
2. Unit 3: Add, subtract, multiply and divide common fractions.
3. Unit 3: Perform combined operations with common fractions.
4. Unit 4: Use a calculator to add, subtract, multiply and divide whole numbers and decimal fractions.
5. Unit 4: Describe the fundamentals of decimal fractions.
6. Unit 4: Add, subtract, multiply and divide fractions.
7. Unit 4: Perform combined operations with decimal fractions.
8. Unit 5: Calculate percentages and averages.
9. Unit 5: Solve problems using exponents and roots.
10. Unit 6: Solve ratio and proportion problems.
11. Unit 7: Solve linear, area, circular and volume problems.
12. Unit 1: Define working drawings and blueprints.
13. Unit 1: Interpret notes and specifications.
14. Unit 1: Describe the characteristics of civil, architectural, structural, mechanical and conveyor blueprints.
15. Unit 2: Identify the fundamentals of steel frame construction.
16. Unit 2: Identify common abbreviations and acronyms found on blueprints and in specifications.
17. Unit 3: Identify columns and welding symbols.
18. Unit 3: Identify wall, door and window symbols and schedules.
19. Unit 3: Interpret title block information.
20. Unit 4: Identify scales and alphabet lines on a drawing.
21. Unit 4: Interpret orthographic projections.
22. Unit 4: Distinguish pictorial views.
23. Unit 4: Interpret sectional views and material symbols.
24. Unit 4: Interpret dimensions.

New Resources for Course

Course Textbooks/Resources

Textbooks

International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO. *Introduction to Blueprint Reading - Reference Manual*, ed. International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO, 2017

International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO. *Mathematics for Ironworkers-Student Workbook*, ed. International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO, 2018

International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO. *Mathematics for Ironworkers - Reference Manual*, ed. International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO, 2018

International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO. *Introduction to Blueprint Reading - Student Workbook*, ed. International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO, 2017

Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Amanda Scheffler</i>	<i>Faculty Preparer</i>	<i>Nov 08, 2019</i>
Department Chair/Area Director: <i>Glenn Kay II</i>	<i>Recommend Approval</i>	<i>Nov 08, 2019</i>
Dean: <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Dec 10, 2019</i>
Curriculum Committee Chair: <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Feb 03, 2020</i>
Assessment Committee Chair: <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Feb 11, 2020</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Feb 14, 2020</i>