

Washtenaw Community College Comprehensive Report

WAF 110 Ironworker Pre-Apprenticeship Orientation and Safety Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: Welding and Fabrication

Discipline: Welding and Fabrication

Course Number: 110

Org Number: 14600

Full Course Title: Ironworker Pre-Apprenticeship Orientation and Safety

Transcript Title: Ironworker Orientation/Safety

Is Consultation with other department(s) required: No

Publish in the Following: College Catalog , Web Page

Reason for Submission: New Course

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, students will be introduced to the history of the Ironworkers Union, basic safety information, terminology and hands-on experience needed to start working as an Ironworker. Areas of study will include personal protective equipment (PPE) use, scaffolding safety, fire watch procedures, OSHA 30, Subpart R, CPR, first aid and power tool safety specific to the Ironworker trade. All the information covered in this course is developed from the Ironworker Orientation Manual. 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. Identify the history, work environment and organizational structure of the Ironworkers Union and organized labor.

Assessment 1

Assessment Tool: Outcome-related exam questions

Assessment Date: Winter 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

2. Identify appropriate fall protection and demonstrate proper use on ladders.

Assessment 1

Assessment Tool: Skill assessment

Assessment Date: Winter 2023

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Skills checklist with rubric

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. Calculate linear measurements with various measuring tools.

Assessment 1

Assessment Tool: Skill assessment

Assessment Date: Winter 2023

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Skills checklist with rubric

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

4. Identify the skills and hand tools associated with all types of Ironworker trades.

Assessment 1

Assessment Tool: Written exam

Assessment Date: Winter 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

5. Erect and dismantle a systems-based scaffold.

Assessment 1

Assessment Tool: Skill assessment

Assessment Date: Winter 2023

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: 70% of students will score 70% or above

Who will score and analyze the data: Departmental faculty

Course Objectives

1. Complete 30 hours of OSHA Construction Safety training.
2. Complete requirements for Subpart R Steel Erection training.
3. Complete two hours of Flagger procedure training.
4. Complete five hours of fire watch training.
5. Complete five hours of Ironworker Union orientation.
6. Complete five hours of CPR and First Aid training.
7. Unit 1: Describe and outline the history of the Ironworkers Union.
8. Unit 1: List the major kinds of work performed by Ironworkers.
9. Unit 1: Describe the structure of the Ironworkers Union and the apprenticeship program.
10. Unit 2: Identify and use appropriate personal protective equipment (PPE).
11. Unit 2: Identify fall protection for use on the job.
12. Unit 2: Identify proper use of ladders on the job.
13. Unit 2: List key principles of electrical safety.
14. Unit 3: Define linear measurement, and identify the parts of an inch, a foot and a yard.
15. Unit 3: Use a tape measure and a folding rule.
16. Unit 3: Add and subtract values of linear measure.
17. Unit 4: Identify general and specialized hand tools.
18. Unit 5: Describe the main job function of the rigger.
19. Unit 5: Identify appropriate rigging methods and equipment and when to use them.
20. Unit 5: List safe signaling practices associated with rigging work.
21. Unit 6: Define welding and identify four welding processes.
22. Unit 6: Set up and break down oxy-fuel cutting and welding equipment.
23. Unit 6: Connect the leads for shielded metal arc welding.
24. Unit 7: Describe the main job function of the structural iron worker.
25. Unit 7: Identify structural steel shapes and types of bolts.
26. Unit 7: List the key activities of a structural ironworker.
27. Unit 7: Describe the history of the topping out ceremony.
28. Unit 8: Describe the main functions of the architectural and ornamental Ironworker.
29. Unit 8: Identify the major work tasks performed by the architectural and ornamental Ironworker.
30. Unit 9: Describe the function of the rodman.
31. Unit 9: Identify types and sizes of rebar, and basic ties.
32. Unit 9: Identify different types of post-tensioning reinforcing.
33. Unit 1: Identify types of scaffolding.
34. Unit 2: Read and interpret OSHA Subpart L for scaffolds.
35. Unit 3: Identify supported scaffold components and capacities.
36. Unit 3: Read and interpret scaffold manufacturer component load charts.
37. Unit 3: Perform scaffold load calculations.
38. Unit 4: Erect and dismantle systems-based scaffolding.

New Resources for Course

Course Textbooks/Resources

Textbooks

International Association of Bridge Structural, Ornamental, and Reinforcing Iron Workers, AFL-CIO. *Orientation Training 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. *Scaffold Training for Ironworkers - 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. *Orientation Training 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. *Scaffold Training for Ironworkers - 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>