



Course Outcome Summary

Required Program Core Course

WELD 216 – Basic Pipefitting

Course Information

Division	Applied Science & Engineering Technology
Contact Hours	90
Theory	45
Lab Hours	45
Total Credits	4

Prerequisites **WELD 110 and WELD 102 or 114**

Course Description

Basic Pipefitting will cover basic fabricating techniques of various pipe intersections, pipe runs, and sheet metal layout for heating, plumbing, and power plant installations.

This course is a required core course for students pursuing an AAS Degree, Advanced Welding Certificate, or Basic Welding Certificate in Welding Technology.

Program Outcomes Addressed by this Course:

Upon successful completion of this course, students should be able to meet the program outcomes listed below:

1. Demonstrate safe welding, fabricating, and thermal cutting practices.
2. Perform cutting and gouging procedures using thermal cutting techniques.
3. Follow procedures to deposit sound welds using Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW), and Gas Tungsten Arc Welding (GTAW) processes.
4. Describe American Welding Society (AWS) Standards as well as industrial standards as they relate to welding.
5. Identify and solve common weldability problems.
6. Demonstrate the proper use and care of common welding and fabricating equipment.
7. Identify weld defects, explain methods to prevent defects, and demonstrate proper defect repair.
8. Read prints and interpret welding symbols.
9. Explain knowledge of basic material and welding metallurgy.
10. Specify proper Personal Protective Equipment (PPE) required for applicable work environments.

Course Outcomes

In order to evidence success in this course, the students will be able to:

1. Calculate layout of various pipe runs, configurations, and container volumes.
 - a. Applies to program outcome 8 and 9.
2. Solve for angular piping systems, eccentric and concentric piping systems and reducers.
 - a. Applies to program outcome 8 and 9.
3. Solve for lateral constructions, wye connectors, and railing intersections.
 - a. Applies to program outcome 8 and 9.
4. Fabricate angular piping systems, eccentric and concentric piping systems and reducers.
 - a. Applies to program outcome 1, 2, 3, 5, 6, 7, 8, 9 & 10.
5. Fabricate lateral constructions, wye connectors, and railing intersections.
 - a. Applies to program outcome 1, 2, 3, 5, 6, 7, 8, 9 & 10.
6. Practice safe welding, thermal cutting, and grinding habits in a lab environment.
 - a. Applies to program outcome 1 and 10.
7. Integrate thermal cutting, gouging, and grinding operations as required to complete work.
 - a. Applies to program outcomes 1, 2, 6, 9, & 10.



MONROE COUNTY
COMMUNITY COLLEGE

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8. Follow Welding Procedure Specifications (WPS), verbal, and written instructions to complete work.
 - a. Applies to program outcome 1, 2, 3, 4, 6, & 10.
9. Demonstrate the ability to properly set up, operate, and shut down applicable welding and cutting equipment.
 - a. Applies to program outcome 1, 2, 3, 6, & 10.
10. Work productively individually and in collaboration with others.

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By: Stephen Hasselbach