

# Multi-State Advanced Manufacturing Consortium

US DOL SPONSORED TAACCCT GRANT: TC23767

RELEASE DATE

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VERSION

v 002

PAGE 1 of 2

## **Course Outline**

PRIMARY DEVELOPER: Kevin Ridge, Welding Instructor, Henry Ford College

Pipe Welding (2G and 5G Welding)



**HFC Course Code:** CIMWD-210

Course Topic: Pipe Welding (2G and 5G Welding)

**Recommended Textbook:** Welding: Principles and Applications 7<sup>th</sup> Edition

## **Course Description:**

Introduces safety protocols and the proper preparation used to weld pipe. Emphasizes pipe welding in 2G and 5G welding positions.

## **Course Topics**

- 1. Safety protocols.
- 2. Pipe preparation and alignment.
- 3. Open root pass.
- 4. 2G welding position.
- 5. 5G welding position.

# **Course Objectives**

Upon completion of this course the student can:

- 1. Demonstrate proper safety practices for pipe welding.
- 2. Identify and explain the 2G and 5G pipe welding positions.
- 3. Demonstrate the proper alignment techniques for welded pipe joints.
- 4. Demonstrate proper welding technique for an open root pass on plate.
- 5. Perform a weld using the proper techniques for the 2G and 5G positions using the Shielded Metal Arc Welding process.
- 6. Perform a weld using the proper techniques for the 2G and 5G positions using the Gas Tungsten Arc Welding process.
- \* See Projects for more details.

#### **Lectures**

1. Pipe, tube, and pipe welding





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2 of 2

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