



---

## Course Outline

### *Shielded Metal Arc Welding – Flat and Horizontal Welding*

---



**HFC Course Code:** CIMWD-110

**Course Topic:** Shielded Metal Arc Welding – Flat and Horizontal Welding

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

**Course Description:**

Examines the theory and practical operation of shielded metal arc welding in both a flat and horizontal welding position. Emphasizes safety protocols, machine settings, and filler metals.

**Course Topics**

1. Safety protocols
2. SMAW welding machine
3. Filler metals
4. Flat position welding
5. Horizontal position welding

**Course Objectives\***

1. Demonstrate proper safety practices for Shielded Metal Arc Welding.
2. Apply the proper welding machine settings for a given competency using the Shielded Metal Arc Welding process.
3. Identify and explain various welding electrodes used in the Shielded Metal Arc Welding process.
4. Demonstrate proper welding technique in flat position using the Shielded Metal Arc Welding process.
5. Demonstrate proper welding technique in horizontal position using the Shielded Metal Arc Welding process.
6. Perform multiple welds using proper welding technique for a given weldment.

\* See Projects for more details.

**Lectures and Demonstrations**

1. Shielded Metal Arc Welding





---

## **Course Outline**

### *Shielded Metal Arc Welding – Flat and Horizontal Welding*

---

#### **SAFETY DISCLAIMER:**

M-SAMC educational resources are in no way meant to be a substitute for occupational safety and health standards. No guarantee is made to resource thoroughness, statutory or regulatory compliance, and related media may depict situations that are not in compliance with OSHA and other safety requirements. It is the responsibility of educators/employers and their students/employees, or anybody using our resources, to comply fully with all pertinent OSHA, and any other, rules and regulations in any jurisdiction in which they learn/work. M-SAMC will not be liable for any damages or other claims and demands arising out of the use of these educational resources. By using these resources, the user releases the Multi-State Advanced Manufacturing Consortium and participating educational institutions and their respective Boards, individual trustees, employees, contractors, and sub-contractors from any liability for injuries resulting from the use of the educational resources.

#### **DOL DISCLAIMER:**

This product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

#### **RELEVANCY REMINDER:**

M-SAMC resources reflect a shared understanding of grant partners at the time of development. In keeping with our industry and college partner requirements, our products are continuously improved. Updated versions of our work can be found here: <http://www.msamc.org/resources.html>.

