

Course discipline/number/title: WELD 1002: SMAW-Shielded Metal Arc Welding

A. CATALOG DESCRIPTION

1. Credits: 3
2. Hours/Week: 6 lab
3. Prerequisites (Course discipline/number): WELD 1001
4. Other requirements: None
5. MnTC Goals (if any): NA

B. COURSE DESCRIPTION: This course introduces students to Shielded Metal Arc Welding (SMAW) including equipment, terms, and related safety procedures. Student will learn the safe and correct set up of all SMAW related welding equipment. Student will demonstrate proper electrode selection and use based on metal type and thicknesses. Student will perform basic SMAW welds on selected joints in all positions and will perform visual inspection of these welds to understand what an acceptable weld is. This is a co-requisite course to be taken with WELD 1001 and WELD 1003.

C. DATE LAST REVISED (Month, year): December, 2020

D. OUTLINE OF MAJOR CONTENT AREAS:

1. SMAW
2. Weld Joints
3. Quality Assurance

E. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Demonstrate the safe and correct set up, shut down and maintenance of all SMAW related welding equipment.
2. Identify factors that affect proper SMAW electrode selection.
3. Demonstrate striking and maintaining a proper SMAW arc.
4. Perform basic SMAW welds on butt, lap, corner, and T-joints in the flat and horizontal positions.
5. Demonstrate proper inspection of finished welds to determine their compliance to industry standards.

F. LEARNING OUTCOMES (MNTC): NA

G. METHODS FOR EVALUATION OF STUDENT LEARNING. Methods may include but are not limited to:

1. Daily Lab Assignments
2. Final Exam

H. RCTC CORE OUTCOME(S). This course contributes to the following RCTC Core Outcome(s):
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

Personal and Professional Accountability. Students will take responsibility as active learners for achieving their educational and personal goals.

I. SPECIAL INFORMATION (if any): None