

Course discipline/number/title: WELD 1004: GMAW-Gas Metal Arc Welding

- A. CATALOG DESCRIPTION
1. Credits: 3
  2. Hours/Week: 6
  3. Prerequisites (Course discipline/number): None
  4. Other requirements: WELD 1001
  5. MnTC Goals (if any): NA
- B. COURSE DESCRIPTION: Students will study the fundamentals and safety concerns of the GMAW process. Within this course students will learn about GMAW power sources, shielding gases, methods of transfer and electrode selection. Students will demonstrate the proper PPE and safety concerns needed for the GMAW process. Students will perform basic GMAW welds in all positions and perform visual inspection of these welds to understand what an acceptable weld is.
- C. DATE LAST REVISED (Month, year): February, 2025
- D. OUTLINE OF MAJOR CONTENT AREAS:
1. GMAW
  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 GMAW related welding equipment.
  2. Identify factors that affect proper GMAW electrode and shielding gas selection.
  3. Identify and demonstrate the different transfer modes of the GMAW process.
  4. Perform basic GMAW 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 with 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 meeting 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