

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. WELD

COURSE NUMBER: 1300

NUMBER OF CREDITS: 3

Lecture: 0 Lab: 3 OJT: 0

Course Title:

Intermediate Gas Metal Arc Welding

Catalog Description:

Intermediate Gas Metal Arc Welding will teach students to perform Gas Metal Arc Welding in the horizontal, vertical, and overhead positions in accordance with American Welding Society procedures. Operate power supplies that use shielded gases, short-arc and spray discharge. Identify wire types and sizes, common joint types in various thicknesses are welded.

Prerequisites or Necessary Entry Skills/Knowledge:

None

FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered

The use and selection of personal protective equipment, eye and face protection, clothing for Gas Metal Arc Welding

Methods of metal transfer

Common shielding gasses or gas mixtures used for short circuiting, spray, and pulsed spray transfer on plain carbon steel

Effects of voltage, electrical potential, amperage, and electrical current as it relates to the Gas Metal Arc Welding process

Wire feed speed, how to determine and its relationship to welding current

Techniques to control the Gas Metal Arc Welding weld pool

Gas Metal Arc Welding equipment set-up and proper use

Student Learning Outcomes

Recognize and demonstrate weld shop safety and the use of personal protective equipment.

Demonstrate safe and proper use of Gas Metal Arc Welding equipment and components.

Perform a groove weld in all positions.

Apply the technical understanding of the Gas Metal Arc Welding processes.

Evaluate welds for compliance with American Welding Society standards and codes.

Is this course part of a transfer pathway: Yes No

**If yes, please list the competencies below*

Revised Date: 3/29/2022