

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. WELD

COURSE NUMBER: 1220

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT: 0

Course Title:

Shielded Metal Arc Welding

Catalog Description:

Shielded Metal Arc Welding provides the student with a thorough technical understanding of arc welding, welding safety, arc welding power sources, electrode classifications and selection. It also provides training to develop the skills necessary to make quality shielded metal arc welds on mild steel.

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

Safety in the welding shop

Welding joints and positions

Material preparation

Electrode selection

Shielded Metal Arc Welding (SMAW) principles

Current and polarity

Shielded Metal Arc Welding equipment, set-up, and supplies

Perform quality welds using Shielded Metal Arc Welding processes

Student Learning Outcomes

Recognize a safe work environment and the need for personal safety.

Demonstrate weld shop safety.

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

Demonstrate technical understanding of Shielded Metal Arc Welding processes.

Perform quality welds in the flat position using Shielded Metal Arc Welding processes.

Demonstrate proper adjustment, set-up and operation of Shielded Metal Arc Welding equipment.

Is this course part of a transfer pathway: Yes No

*If yes, please list the competencies below

Revised Date: 3/29/2022