Minneapolis 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

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<th>Outcome</th>
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<tr>
<td>Recognize a safe work environment and the need for personal safety.</td>
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<td>Demonstrate weld shop safety.</td>
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<td>Demonstrate safe and proper use of Shielded Metal Arc Welding equipment and components.</td>
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<td>Demonstrate technical understanding of Shielded Metal Arc Welding processes.</td>
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<td>Perform quality welds in the flat position using Shielded Metal Arc Welding processes.</td>
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<td>Demonstrate proper adjustment, set-up and operation of Shielded Metal Arc Welding equipment.</td>
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*Is this course part of a transfer pathway:* Yes ☐ No ☒

*If yes, please list the competencies below*

Revised Date: 3/29/2022