MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

DEPT. ELEC       COURSE NUMBER: 2205

NUMBER OF CREDITS: 4     Lecture: 1 Lab: 3 OJT: 0

Course Title:
Electric Motor Controls I

Catalog Description:
Motor Controls I instructs students in the use of electrical tools, instruments, safety equipment, electrical symbols, line diagrams, AC manual contactors and motor starters, AC magnetic contactors and motor starters, time delay logic and control devices.

Prerequisites or Necessary Entry Skills/Knowledge:
ELCO 1100 or ELCO 1110

FULFILLS MN TRANSFER CURRICULUM AREA(S)
☐ 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
Basic motor control circuits
Relays, contactors and motor starters
Timing circuits
Reversing Circuits

Student Learning Outcomes
Identify motor control symbols
Interpret ladder, schematic and wiring diagrams
Describe control relay, contactor and motor starters
Describe motor overload protection
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<th>Description</th>
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<tr>
<td>Describe motor short circuit-ground fault protection</td>
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<td>Describe motor jogging circuit</td>
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<td>Describe 2-wire and 3-wire control circuits</td>
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<td>Describe on-delay and off-delay timing circuits</td>
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<td>Describe reversing circuits</td>
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<tr>
<td>Wire 2-wire and 3-wire control circuits</td>
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<tr>
<td>Wire motor jogging circuits</td>
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<tr>
<td>Wire timing circuits</td>
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<tr>
<td>Wire reversing circuits</td>
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<td>Troubleshoot motor control circuits</td>
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**Is this course part of a transfer pathway:** Yes ☐ No ✗

Revised Date: 02/14/2020