## Course Outline

**DEPT. ELEC**  | **COURSE NUMBER:** 2225  
**NUMBER OF CREDITS:** 4  | **Lecture:** 1  **Lab:** 3  **OJT:** 0

### Course Title:
Electric Motor Controls II

### Catalog Description:
Electric Motor Controls II describes electromechanical and solid state relays, photoelectric controls, proximity controls, reduced voltage starting, accelerating and decelerating methods and preventive maintenance.

### Prerequisites or Necessary Entry Skills/Knowledge:
ELEC 2205

### 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
- Advanced motor control circuits
- Motor breaking methods
- Motor starting methods
- Proximity controls
- Predictive and preventive maintenance

### Student Learning Outcomes
- Describe motor stopping methods
- Describe reduced voltage starting methods
<table>
<thead>
<tr>
<th>Task</th>
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<tbody>
<tr>
<td>Describe types of photoelectric controls</td>
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<td>Describe types of proximity controls</td>
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<td>Describe solid state relays, and motor starters</td>
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<td>Describe variable frequency drives</td>
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<td>Develop complex motor control circuits</td>
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<td>Wire photoelectric sensors</td>
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<td>Wire proximity sensors</td>
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<td>Wire complex control circuits</td>
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<td>Demonstrate predictive and preventive maintenance practices</td>
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**Is this course part of a transfer pathway:** Yes ☐ No ☒

Revised Date: 02/14/2020