## Course Outline

**DEPT.** ELCO  
**COURSE NUMBER:** 1100  
**NUMBER OF CREDITS:** 3  
**Lecture:** 3  
**Lab:** 0  
**OJT:** 0

### Course Title:
Electrical Circuits Fundamentals

### Catalog Description:
Electrical Circuits Fundamentals describes the basic concepts of electricity from DC to AC. Calculate Ohm’s law formulas. Describe series circuits, parallel circuits, capacitance circuits, and inductive circuits. Calculate series circuits, parallel circuits, capacitance circuits, and inductive circuits.

### Prerequisites or Necessary Entry Skills/Knowledge:
MATH 0092 or placement by multiple measures.

### 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
- Ohm’s Law
- Series Circuits
- Parallel Circuits

### Student Learning Outcomes
- Define Volts
- Define Amps
- Define Ohms
- Apply Ohm’s Law
<table>
<thead>
<tr>
<th>Competency</th>
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<tbody>
<tr>
<td>Describe Series Circuits</td>
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<tr>
<td>Describe Parallel Circuits</td>
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<tr>
<td>Solve Series Circuits</td>
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<tr>
<td>Solve Parallel Circuits</td>
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<tr>
<td>Describe Inductance</td>
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<tr>
<td>Describe Capacitance</td>
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<tr>
<td>Describe Series Parallel Circuits</td>
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**Is this course part of a transfer pathway:** Yes ☐ No ☒

*If yes, please list the competencies below*

Revised Date: 1/1/2022