Course Title:
Electrical Metering

Catalog Description:
Electrical Metering covers single-phase metering principles, meter construction, component parts and installation and testing of single-phase electric watt-hour meters. This course also includes the use of a meter test bench, test standards and an electric counter.

Prerequisites or Necessary Entry Skills/Knowledge:
None

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
Simple rules of safety and hazards involved with testing and installing electrical meters
Single-phase watt-hour meters, both self-contained and instrument rated meters
Instrument transformer hazards

Student Learning Outcomes
List the advantages and limitations of using an electro magnet moving coil meter ac voltage, current, and watts.
Describe the construction and operation of single-phase watt-hour meters (both self-contained and instrument transformer rated).
Define the connection and formulas to be used to test the accuracy of a single-phase watt-hour meter.
<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
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<tbody>
<tr>
<td>Test, calibrate, and describe the test used in testing single-phase</td>
<td>Test, calibrate, and describe the test used in testing single-phase meters.</td>
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<td>meters</td>
<td>Describe the construction and use the meter test equipment.</td>
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<td>Describe the construction and use the meter test equipment.</td>
<td>Calculate the metered power of a load connected to a watt-hour meter by the use of the formulas.</td>
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<tr>
<td>Calculate the metered power of a load connected to a watt-hour meter</td>
<td>Describe and identify the equipment used in metering with instrument transformers.</td>
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<td>by the use of the formulas.</td>
<td>Wiring single phase and 3 phase meters</td>
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**Is this course part of a transfer pathway:** Yes ☐ No ☒

Revised Date: October, 2020