

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. ELCO

COURSE NUMBER: 1110

NUMBER OF CREDITS: 3

Lecture: 2 Lab: 1 OJT 0

Course Title:
AC/DC I

Catalog Description:
AC/DC I introduces students to electrical theory and practical experiences starting with DC electric circuits, electrical safety practices, and familiarization with training equipment using Ohm's law and power.

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
Safety
Introduction to electricity
Metric notation
Multimeter measurements
Resistors and color coding
Ohms law and power
Relays and meters
Basic AC/DC circuits
Series, parallel, and combination circuits

Electromagnetic principles
Pre-algebraic formulas

Student Learning Outcomes
Apply the use of a meter with electricity and Ohm's
Apply safe tactics on the job with electricity
Calculate and use electrical terms
How to troubleshoot series, parallel, and combination circuits
Measure voltage and current with a meter
Understand how to color code resistors
Understanding and respecting electricity
Understand the difference between an insulator and conductor
Work on series, parallel, and combination circuits
When to apply complex circuits

Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<i>*If yes, please list the competencies below</i>	

Revised Date: 1/1/2022