

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. ELEC

COURSE NUMBER: 2240

NUMBER OF CREDITS: 3

Lecture: 2 Lab: 1 OJT: 0

Course Title:

Transformers

Catalog Description:

Transformers describes basic transformer theory, construction, installation and troubleshooting of single phase and three phase transformers. Examine types of transformers including isolation, autotransformer and instrumentation transformers.

Prerequisites or Necessary Entry Skills/Knowledge:

Prerequisite: ELCO 1100 or ELCO1110

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

Single phase transformer construction, operation and calculations

Three phase transformer construction, operation and calculations

Single phase and three phase transformer connections

Student Learning Outcomes

Identify types of transformers

Describe magnetic induction as it relates to transformer theory

Explain step-up/step-down transformers

Calculate power, voltage and current in a transformer circuit
Design transformer connection diagrams
Connect various types of transformers most commonly used in the electrician field
Prove transformer operation
Test values of voltage, current and power in a transformer circuit
Apply National Electrical Code standards

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

Revised Date: 1/1/2023