MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

Faculty members are required to have the outline submitted to the Academic Affairs Office. The course outline is the form used for approval of new courses by the Academic Affairs and Standards Council.

DEPT. SOLR COURSE NUMBER: 2025

NUMBER OF CREDITS: 2 Lecture: 0 Lab: 2

Course Title:
PHOTOVOLTAIC SYSTEMS LAB

Catalog Description:
This hands-on course will cover the National Electrical Code (NEC) specifics concerning photovoltaic installation Article 690. Code-compliant wiring of modules, inverters, charge controllers, and batteries will be explored. Students will plan and execute photovoltaic system installations.

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:

Prerequisites or Necessary Entry Skills/Knowledge:
ELCO 1110 or ELCO 1100, concurrent enrollment in SOLR 2020 with a grade C or higher.
### Topics to be Covered
- Proper tools and personal protective equipment needed for photovoltaic installation.
- Photovoltaic module and inverter mounting systems.
- Photovoltaic charge controllers and batteries.
- Monitoring and control systems.

### Student Learning Outcomes
- Describe the PPE required for PV system installation and applications where it is required.
- Describe the tools required for PV system installation and their use.
- Install racking, modules, inverter, charge controller, and batteries.
- Measure and bend conduit as required.
- Locate applicable code requirements in the National Electrical Code (NEC) for PV systems and battery systems.

### Is this course part of a transfer pathway:
- Yes ☐
- No ☒

Revised 2/20