MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE
COURSE OUTLINE

DEPT. SOLR **COURSE NUMBER: 2025**

NUMBER OF CREDITS: 2 **Lecture: 0 Lab: 2 OJT: 0**

Course Title:
Photovoltaic Systems Lab

Catalog Description:
Photovoltaic Systems Lab 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. Commercial installations and off-grid systems will be covered. Students will plan and execute photovoltaic system installations.

Prerequisites or Necessary Entry Skills/Knowledge:
None

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
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.
National Electrical Code (NEC)

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 ☒
***If yes, please list the competencies below**

Revised Date: 2/1/2022