

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. SOLR

COURSE NUMBER: 1030

NUMBER OF CREDITS: 2

Lecture: 0 Lab: 2 OJT: 0

Course Title:

Solar Energy Construction Projects

Catalog Description:

Solar Energy Construction Projects will cover the National Electrical Code (NEC) specifics concerning photovoltaic installation Article 690 and introduces students to basic construction skills installing photovoltaic systems along with safely and carefully works with roofing, how to plan and assemble racking, how solar modules and panels are mounted, and how the remaining solar components are incorporated. Residential systems and ground mount systems will be covered.

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 safety and personal protective equipment

Basics of racking and mounting, structural considerations, hardware options, design and assembly.

Basic knowledge of solar photovoltaic

Balance of system function and mounting.

National Electrical Code (NEC)

Student Learning Outcomes

Describe major components of photovoltaic systems.

Describe the basic bonding methods for pipes, ducts and wires in solar systems.

Describe support structures and racking commonly used in solar installations.

Assemble systems according to technical drawings.

Practice working safely with power tools and roofs using personal protective equipment.

Locate applicable code requirements in the National Electrical Code (NEC) for PV systems

Is this course part of a transfer pathway: Yes No

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

Revised Date: 2/1/2022