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## SECTION HEADING

### SOLR 2025: Photovoltaic Systems Lab

#### 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.

#### Credits

2

#### Prerequisite

None

#### Corequisite

None

#### Topics to be Covered

1. Proper tools and personal protective equipment needed for photovoltaic installation.
2. Photovoltaic module and inverter mounting systems.
3. Photovoltaic charge controllers and batteries.
4. Monitoring and control systems.
5. National Electrical Code (NEC)

#### Learning Outcomes

1. Describe the PPE required for PV system installation and applications where it is
2. required.
3. Describe the tools required for PV system installation and their use.
4. Install racking, modules, inverter, charge controller, and batteries.
5. Measure and bend conduit as required.
6. Locate applicable code requirements in the National Electrical Code (NEC) for PV systems and battery systems.

#### Credit Details

Lecture: 0

Lab: 2

OJT: 0

MnTC Goal Area(s): None