SOLR2203 - Photovoltaics System Design III

Credits:	2 (1/1/0)
Description:	This course provides further instruction on planning and constructing the physical layout of a photovoltaic (PV) array, choosing a mounting method, and applying relevant building and electrical code requirements. This course also prepares students to take the North American Board of Certified Energy Practitioners (NABCEP) PV Associate Exam or any entry-level exam in photovoltaics.
Prerequisites:	• SOLR2202
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Identify factors to consider when choosing a mounting system for integrating arrays on buildings, including structural loads on roofs. 2. Identify electrical codes used to calculate voltage, current, conductor ampacity, and overcurrent protection requirements. 3. Identify and explain appropriate conductor types for PV systems based on application and environment. 4. List and identify conductor insulation types, wiring, disconnecting means and locations for arrays. 5. Describe PV system requirements for electrical balance of system (BOS) and grounding methods. 6. Identify codes, standards for utility interconnection and requirements for permit applications. 7. Differentiate between load-side and supply-side connections with code requirements. 8. Identify issues in interconnection agreements and applicable National Electrical Code (NEC) articles for PV arrays. 9. Describe labeling requirements and rules related to rapid shutdown for PV systems. 10. List jobsite hazards and safe work habits, including personal protective equipment (PPE) and fall protection, in compliance with Occupational Safety and Health Administration (OSHA), National Electrical Code (NEC), and National Fire Protection Association (NFPA, 70E) standards for electrical safety in the workplace.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*