Photovoltaic Installation
PV3, Advanced Solar Photovoltaic Systems  4 units

Prerequisite: PV2 (Intermediate PV System Installation).

This course will examine the theoretical and technical dimensions of solar photovoltaic systems in detail. It will provide the hands-on instruction necessary for entry to mid-level employment in the industry. Students will learn advanced principles of electricity and how they apply to solar PV systems. They will review PV safety, site analysis, PV system sizing and design, components and equipment. Detailed discussions on product installation, troubleshooting, net metering laws, local codes, and National Electrical Code (NEC) PV requirements will be covered. Successful participants will be qualified to take the North America Board of Certified Energy Practitioners (NABCEP) Photovoltaic Installer Certification exam.

Course Objectives:
1. Demonstrate advanced knowledge of electrical systems and integration
2. Demonstrate OSHA safety harness, ladder, fall protection, and roof navigation skills
3. Display knowledge of commercial wiring systems, components, and connections
4. Design and install a basic off grid PV tied system including detailed Art. 690 code compliance issues
5. Correctly assemble PV racking and mounting hardware for a ground mount system
6. Accurately design a commercial PV installation including fire code clearances
7. Correctly troubleshoot an advanced PV system maintenance problem and provide the appropriate remedy
8. Remotely monitor a commercial PV system function and provide correct analysis
9. Demonstrate understanding of the NABCEP certification process and sit for the NABCEP certification exam
10. Identify the various business opportunities and advanced career pathways