



Course Name	Installing PV Systems (2023 NEC)
Credit Hours	4 Hours
Instructor(s)	Jerry Durham
Fee	\$55.00
Reference Materials	2023 Edition of the National Electrical Code

Course Description

This course is based on the 2023 NEC and provides electricians with a comprehensive look at solar PV system technology, including the system components, system design(s), and the 2023 NEC which governs system installation.

Learning Objectives

At the end of this class, students will be able to:

- Explain the history of solar PV technology.
- Describe the process and components needed to convert light to energy.
- Define terms such as photovoltaic, and PV module.
- Identify the different components in a PV system.
- Explain the differences between the three main solar PV system types.
- Understand deep-cycle solar battery technology.
- Identify counterfeit deep-cycle solar batteries based on knowledge and criteria.
- Select the correct components for assembling and installing a PV system.
- Identify the NEC articles and sections applicable to PV system installation.
- Verify installation procedures based on Code knowledge.

Equipment Requirements

You must have an active, working internet connection to access this course online, as well as a platform to access the internet, such as a computer, tablet, or phone. All popular web browsers are supported, including Google Chrome, Mozilla Firefox, Safari, and Opera. No specialized software, speaker, microphone, or web camera is required.

Schedule and Location

This course is available online at any time at www.JadeLearning.com. Upon enrolling in the course, students will have access until the agency-issued course expiration date. After the access expiration date, the course will be removed from the student's account and any progress in the

course will be lost. Before the access expiration date, the student may sign in and out of the course as many times as needed to complete the course.

Student Support

Both general and technical support is available to the student before, during, and after taking the course online. Students have access to general customer support via phone, chat, and email. Students have access to the course instructor via a contact form in the course and email. All questions, concerns, and comments received will be responded to within one business day.

Participation/Interactivity Verification

Inactivity Timer - Students are automatically logged out of the training after 30 minutes if the system does not sense interactivity (e.g., a mouse click or typing).

Timed Logs - Per our company's record retention policy, each student's every log-in, log-out, and lesson/assessment completion time is tracked and retained as part of the student record.

Assessment - At least one content question is delivered at the bottom of each page of text and the section is not considered complete until the related question has been answered. The licensee must complete all multiple-choice questions with a score of at least 70% in order to get credit for the course. Question choices are randomized so each participant will have a unique testing experience. This course is set up to allow users to go back through the section questions and re-answer questions while they meet the time requirement.

Global Timer - Students will not get credit until they spend a minimum of 200 active minutes total in the course.

Identity Verification

Unique Username/Password - Each student that wants to complete a training course with us must create an account by registering a unique personal email address and password. The student must enter this unique identifier every time they want to access the course after logging out or being logged out.

Installing PV Systems (2023 NEC) Timed Outline

Section	Title	Questions	Minutes
1	Introducing Solar PV Technology	4	23.5
2	Solar PV Components: PV Modules		
	PV Modules as Integral Part of System		1.7
	Introduction to Module Makeup		9.6
	Types of Modules	4	13.9
3	Solar PV Components: Mounting Racks & Inverters		
	Introduction to Mounting Racks		1.4
	Types of Mounting Racks		13.2
	Inverters	4	10.9
4	Solar PV Components: Batteries & Charge Controllers		
	Introduction to Batteries		4.2
	History of Batteries		5.8
	Batteries for PV Systems		16.3
	Charge Controllers	4	1.0
5	Solar PV Components: PV Wires & Connectors	4	24.6
6	Types of PV Systems	4	20.5
7	Understanding the 2023 NEC	4	23.9
8	Code Compliance: 2023 NEC	4	24.2
9	Code Compliance: Part II 2023 NEC	4	23.5
10	Code Compliance: Part III 2023 NEC	4	22.0
	Totals:	40	240
	Student Minimum Time Required:		200