

# PHOTOVOLTAIC DESIGN & INSTALLATION – ASSOCIATE IN SCIENCE DEGREE, CERTIFICATE OF ACHIEVEMENT

Top Code:

0946.00

This program provides a comprehensive introduction to solar photovoltaic (PV) energy systems, including system sizing, design and installation. Basic electrical theories and National Electrical Code related to photovoltaic will be studied. Hands-on experiments and laboratory assignments with state-of-the-art test instruments will provide testing and troubleshooting techniques. Successful participants will also be qualified to sit for the North American Board of Certified Energy Practitioners (NABCEP) "PV Installer Entry Level Certificate of Knowledge" examination.

Employment opportunities may include positions such as photovoltaic installer, inspector, electrical assistant, electrical technician, maintenance technician, public utilities and sales representative, engineering technician along with purchasing and project administrator.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

## Program Outcomes

- Explain residential and commercial photovoltaic system terminology and installation techniques both verbally and in writing.
- Demonstrate an apprentice-level installation of a residential rooftop photovoltaic system.
- Demonstrate knowledge and skills required to install basic ground and pole mount photovoltaic systems.
- Differentiate and apply the proper selection of materials, tools and test equipment for residential photovoltaic system installation and repairs.
- Demonstrate the use of the Sun pathfinder calculator for shading analysis.

## Requirements for the Certificate of Achievement

Code	Title	Units
ELTY 217	ELECTRICAL INSPECTION AND CODES	2
ELTY 248A	INTRODUCTION TO ELECTRICAL TECHNOLOGY	4
ELTY 248B	ALTERNATING CURRENT CIRCUITS – PRINCIPLES AND APPLICATIONS	4
ELTY 250	INTRODUCTION TO PHOTOVOLTAIC SYSTEMS	4

ELTY 251	PHOTOVOLTAIC THEORY AND INSTALLATION TECHNIQUES	4
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<b>Total Units</b>		<b>18</b>
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## Recommended Electives

Code	Title	Units
BLDG 212	PRINT READING FOR CONSTRUCTION	3
TECH 107A	TECHNICAL CALCULATIONS	3

Visit the Program Mapper (<https://pasadena-city.programmapper.ws/academics/interest-clusters/7e85bdcc-be06-405f-9845-b8b63e49f8c6/programs/0af39615-772a-123d-3f67-cfc53356bace/>) for a suggested sequence of courses.

## General Education Requirements for the Associate in Science Degree

- General Information (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/>)
- PCC Local Gen Ed (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#pcclocaltext>)
- CSU Breadth (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#csubreadthtext>)
- IGETC (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#igetctext>)