

CERTIFICATE IN PHOTOVOLTAICS

Students need to have completed a calculus based General Physics II with lab (PHYS 2140 and PHYS 2145), and General Chemistry II (CHEM 1240) in order to be able to enroll in and complete all certificate course requirements.

Required Courses

Code	Title	Hours
Courses required for the Certificate:		
PHYS 3400	Physical Principles Of Energy Sources For Humans	3
PHYS 4400	Principles and Varieties of Solar Energy	3
PHYS 4630	Semiconductors 1	3
Choose one Elective Course from the following:		3
PHYS 4580	Molecular And Condensed Matter Laboratory	
PHYS 4910	Research Problems-Physics And Astronomy ¹	
PHYS 4940	Internship in Renewable Energy	
PHYS 4980	Special Topics In Physics ¹	
Total Hours		12

¹ The selection of PHYS 4910 or PHYS 4980 course needs to be approved by the Advisor.

- Demonstrate an understanding of foundational concepts in chemistry, physics, and engineering as applied to photovoltaics.
- Demonstrate an understanding of the PV materials and devices, including optical, electrical, structural, and defect properties, phase transformations, and growth, materials characterization, device working principle, or applications.
- Communicate technical information clearly and accurately in written, oral, and visual formats.
- Locate and use information in the primary literature and research databases.
- Critically read, assess, and evaluate scientific publications, presentations, and data.
- Understand and observe proper safety, ethical, and professional practices.
- Apply scientific skills in an interdisciplinary scientific context.