

# SOLAR ENERGY GRADUATE CREDIT CERTIFICATE PROGRAM

<b>Person-in-Charge</b>	Mark Fedkin
<b>Program Code</b>	SOLEGY
<b>Campus(es)</b>	World Campus

The graduate certificate in Solar Energy is designed for current and aspiring practitioners seeking advanced skills in resource assessment, project development, and system design for solar energy systems. The program is offered by the Department of Energy and Mineral Engineering through Penn State's World Campus.

Courses taken in the certificate program may be applied toward the Master of Professional Studies in Renewable Energy and Sustainability Systems (RESS) if the student has earned a B- or better in each course, subject to restrictions outlined in GCAC-309 Transfer Credit (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/transfer-credit/>). Certificate students who wish to have certificate courses applied towards the M.P.S. in RESS must apply and be admitted to that degree program. Admission to the RESS graduate degree program is a separate step and is not guaranteed.

**Effective Semester:** Fall 2023

**Expiration Semester:** Fall 2028

## Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>). International applicants may be required to satisfy an English proficiency requirement; see GCAC-305 Admission Requirements for International Students (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students/>) for more information.

A background in engineering, physics, or systems science is strongly recommended.

## Certificate Requirements

Requirements listed here are in addition to requirements listed in Graduate Council policy GCAC-212 Postbaccalaureate Credit Certificate Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-212-postbaccalaureate-credit-certificate-programs/>).

Certificate students earn the Certificate and 12 graduate credits by successfully completing each of four 3-credit, instructor-led online courses with a grade of C or better.

Code	Title	Credits
<b>Required Courses</b>		
EME 810	Solar Resource Assessment and Economics	3
AE 878	Solar Project Development and Finance	3
<b>Electives</b>		

Select 6 credits from the following: 6

EME 812	Utility Solar Power and Concentration
AE 868	Commercial Solar Electric Systems
EME 811	Solar Thermal Energy for Utilities and Industry
AE 862	Distributed Energy Planning and Management

**Total Credits** 12

## Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

## Learning Outcomes

1. Evaluate solar energy systems using techno-economic, performance and/or cost/benefit analyses, including multi-parameter dynamic simulation tools.
2. Demonstrate fundamental understanding of the principles of solar energy science, including resource availability, resource intermittency, and options for solar energy conversion systems.
3. Demonstrate an appreciation for the project development and stakeholder engagement process relative to the goal of solar design: identifying stakeholder preference for solar goods and services in a given locale.
4. Evaluate project development and/or sustainability decisions in the broader context of society's interests.

## Contact

<b>Campus</b>	World Campus
<b>Graduate Program Head</b>	Mark Valentinovich Fedkin
<b>Director of Graduate Studies (DGS) or Professor-in-Charge (PIC)</b>	Mark Valentinovich Fedkin

**Program Contact**  
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**Program Website**  
 View (<https://www.ress.psu.edu/node/14/>)