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 thermal and solar electric 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: Summer 2018
Expiration Semester: Summer 2023

Admission Requirements
Applicants apply for admission to the program via the Graduate School application for admission (http://gradschool.psu.edu/prospective-students/how-to-apply). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions (http://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 (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students) for more information.

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

Certificate Requirements
Requirements listed here are in addition to requirements listed in Graduate Council policy GCAC-212 Postbaccalaureate Credit Certificate Programs (http://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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>EME 810</td>
<td>Solar Resource Assessment and Economics</td>
<td>3</td>
</tr>
<tr>
<td>AE 878</td>
<td>Solar Project Development and Finance</td>
<td>3</td>
</tr>
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</table>

Select 6 credits from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>EME 811</td>
<td>Solar Thermal Energy for Utilities and Industry</td>
</tr>
<tr>
<td>EME 812</td>
<td>Utility Solar Power and Concentration</td>
</tr>
<tr>
<td>AE 862</td>
<td>Distributed Energy Planning and Management</td>
</tr>
<tr>
<td>AE 868</td>
<td>Commercial Solar Electric Systems</td>
</tr>
</tbody>
</table>

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.

Contact
Campus World Campus
Graduate Program Head Mark Valentinovich Fedkin
Director of Graduate Studies (DGS) or Professor-in-Charge (PIC) Mark Valentinovich Fedkin
Program Contact Noelle Fetzer Capparelle
2217 Earth Engr Sciences
University Park PA 16802
nlf5@psu.edu
(814) 867-5401

Program Website View (https://www.ress.psu.edu/certificates)