The Certificate in Remote Sensing and Earth Observation helps geospatial professionals become skillful users of imagery and sensor data in the context of geographic information systems and spatial analysis. This program is designed specifically for GIS practitioners who lack formal education in techniques and technologies associated with spatial image analysis and earth observation methods in order to pursue professional development and make career changes. The program explores theory and techniques for the professional application of remote sensing in geospatial systems and analysis. The program is offered through Penn State’s World Campus.

Effective Semester: Summer 2016
Expiration Semester: Summer 2021

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 Policies (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.

Intermediate-level experience with professional applications of geographic information systems is expected as prerequisite knowledge. Course work to establish that prerequisite knowledge is available through the related Postbaccalaureate Certificate in GIS (http://bulletins.psu.edu/graduate/programs/certificates/geographic-information-systems-postbaccalaureate-credit-certificate-program/) program.

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/). Students earn the certificate by completing four instructor-led online courses – three required and one elective. Students who successfully complete the program earn 12 academic credits.

Students admitted to the Department of Geography’s Master of GIS degree program may count up to 15 credits of certificate program courses toward the M.G.I.S. degree, 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 a graduate degree must apply and be admitted to that degree program. Admission to the M.G.I.S. graduate degree program is a separate step and is not guaranteed.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEOG 480</td>
<td>Exploring Imagery and Elevation Data in GIS Applications</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 883</td>
<td>Remote Sensing Image Analysis and Applications</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 481</td>
<td>Topographic Mapping with Lidar</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 589  or GEOG 892</td>
<td>Emerging Trends in Remote Sensing Geospatial Applications of Unmanned Aerial Systems</td>
<td>3</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.

Learning Outcomes
- Differentiate between various remote sensing technologies for a wide variety of earth observation and mapping applications.
- Apply the technical and analytical competencies to extract quantitative and qualitative information from remotely sensed earth observations.

Contact
Campus
World Campus

Graduate Program Head
Karen Schuckman
Kary D Blaschak-Isett
418 Earth Engr Sciences
University Park PA 16802
kdb6@psu.edu
(814) 865-2557

Program Website
View (https://gis.e-education.psu.edu/remotesensing/certificate/)