



Graduate Certificate in Remote Sensing and Earth Observation



PennState
World Campus



Online Graduate Certificate in Remote Sensing and Earth Observation

The Graduate Certificate in Remote Sensing and Earth Observation, developed by the Department of Geography in the College of Earth and Mineral Sciences, provides a comprehensive foundation that incorporates core concepts, cutting-edge applications, and emerging trends in remote sensing.

This online certificate is ideal for intermediate GIS professionals who possess a working knowledge of geospatial concepts and technology. As a student in the program, you can learn to utilize earth imagery and elevation data to conduct geospatial analysis, a skill set that will make you a valued asset to many organizations.

The Penn State Difference

- Penn State was recently named a Center of Academic Excellence in Geospatial Sciences by the NGA/USGS.
- Our comprehensive curriculum is developed and delivered by experienced faculty, your assurance that you are receiving a true Penn State credential.
- The college credit you earn in the certificate program can later be applied to our master's programs, if you are granted admission.



Online Learning

To help you balance your personal and professional commitments, the courses in this certificate are offered entirely online through Penn State World Campus. Your learning experience will be supported by frequent interaction with faculty and other students, access to information and instructional resources, and dedicated student support services.

Flexibility for the Adult Learner

The Remote Sensing program operates on five 10-week terms. With two sessions that partially overlap in fall and spring, and one session in the summer, you can complete the program at your own pace. You can schedule your courses without any overlap, or take as many courses as possible to finish your certificate in a year or less.

This schedule, along with our rolling application process, also allows you to start your program right away.

Curriculum

This 12-credit certificate explores the science of acquiring information about Earth from images and sensor networks. Utilizing remote sensing technologies to collect data, you can learn how to analyze images and data to provide spatial insights for improving decision making in domains like business, crisis management, ecology, and the energy sector.

Required Courses:

➤ **GEOG 480 Exploring Imagery and Elevation Data in GIS Applications (3 credits)**

Using imagery and terrain data in typical application scenarios faced by the geospatial professional.

➤ **GEOG 481 Topographic Mapping with Lidar (3 credits)**

Using airborne topographic lidar to create elevation models for GIS applications.

➤ **GEOG 883 Remote Sensing Analysis and Applications (3 credits)**

Understanding remote sensing systems' operation, data products, and processing techniques to address typical problem scenarios faced by the remote sensing professional.

Electives (select 3 credits):

➤ **GEOG 589 Emerging Trends in Remote Sensing (3 credits)**

Highlights emerging theoretical and methodological trends in high-performance remote sensing for geospatial analysis through discussion and laboratory experiences.

➤ **GEOG 892 Geospatial Applications of Unmanned Aerial Systems (3 credits)**

Introduces theory and methods for operating an unmanned aerial system for geospatial data acquisition and analysis.

Some courses have prerequisites; however, an adviser may accept previous professional experience as a substitution.

View the Courses page at:

worldcampus.psu.edu/remotesensing/courses

Begin Your Application Today

To pursue the Graduate Certificate in Remote Sensing and Earth Observation, you will first need to complete an online Graduate School Application Form, found by clicking on the “How to Apply” link from the program overview page at worldcampus.psu.edu/remotesensing.

To enroll in this program, you must hold a baccalaureate degree from a regionally accredited institution with credits substantially equivalent to those required by Penn State.

The following materials are also required as part of the application process:

- A copy of an official transcript from each institution attended
- Résumé
- TOEFL or IELTS score, if applicable

About the Lead Faculty



Karen Schuckman, CP, PLS, MGIS

Karen Schuckman teaches remote sensing and geospatial technology in the online GIS programs offered through Penn State World Campus. She also consults with

engineering practice groups on areas such as floodplain mapping, disaster response and preparedness, critical infrastructure, and transportation. She is past president of the American Society for Photogrammetry and Remote Sensing, former vice chair of the NOAA Advisory Committee for Commercial Remote Sensing, and a member of the National Research Council Committees on Floodplain Mapping Technologies and FEMA Flood Map Accuracy.

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worldcampus.psu.edu

Contact Us

To learn more about the Graduate Certificate in Remote Sensing and Earth Observation, offered in partnership with the College of Earth and Mineral Sciences, please contact:

Academic Program Office

Email: info@gis.psu.edu

Program website: pennstategis.com

Phone: 877-778-4471

College of Earth and Mineral Sciences

John A. Dutton e-Education Institute

2217 Earth and Engineering Sciences Building

University Park PA 16802

World Campus Admissions Counselors

Phone: 800-252-3592 (toll free within the United States)

814-865-5403 (local and international)

Email: wdadmissions@outreach.psu.edu

For more information, visit:

worldcampus.psu.edu/remotesensing



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