

# GEOGRAPHIC INFORMATION SCIENCE, POST-BACCALAUREATE CERTIFICATE

Saint Louis University's post-baccalaureate certificate program in geographic information science focuses on current issues, including environmental quality, climate change, the sustainability of natural and nonrenewable resources and the impact of human activities on the environment.

## Program Highlights

The SLU program offers its students:

- Focus on advanced remote sensing, GIS and geospatial methods
- Use of the latest image processing techniques
- Coverage of diverse applications in various disciplines
- Training with industry-leading hardware and software systems (ArcGIS, ENVI+IDL, SARscape) and open-source platforms (e.g., QGIS, Boundless Desktop)
- Late afternoon or evening classes that accommodate working professionals
- Instructors with advanced degrees who work and conduct research in the field
- State-of-the-art research labs equipped with modern computing, commercial and open-source software tools, various remote sensing sensors and manned and unmanned aircraft

## Curriculum Overview

The GIS certificate is a 15-credit program that students can pursue on a full- or part-time basis, usually completing the certificate in less than two years.

Courses cover the latest image-processing techniques for optical, thermal, RADAR, LiDAR remote sensing. Students will also explore geospatial methods and principles of spatial analysis, database design, cartographic representation, machine learning, computer vision, management and data mining with the integration of GIS, remote sensing and GPS.

Theory and lectures are supplemented with hands-on projects involving risk assessment and mitigation, environmental modeling, resource exploration, sustainable development, natural resource management and transportation, subterranean mapping and forest fire management.

## Careers

Graduates have a very good employment outlook. Employment in this field is growing at an annual rate of almost 35%, with the commercial subsection of the market expanding by 100% each year, according to the Geospatial Information and Technology Association.

Recent graduates from this program have been employed by various environmental, remote sensing and GIS companies, including Bayer, the National Geospatial-Intelligence Agency and the U.S. Geological Survey.

## Admission Requirements

**Minimum GPA:** 3.00

Applicants with a GPA below the minimum will be considered on a case-by-case basis.

Students already enrolled in any graduate program at Saint Louis University do not need to reapply and should submit a Petition for Post-Baccalaureate Certificate Admission (Form No. 15). Other applicants must submit the following:

- Official transcripts
- One letter of recommendation
- Résumé
- Professional goal statement (500 to 800 words)

## Requirements for International Students

All Saint Louis University admission policies and requirements for domestic students apply to international students. International students applying to SLU must also meet the following additional requirements:

- Demonstrate English language proficiency (<https://catalog.slu.edu/academic-policies/office-admission/undergraduate/english-language-proficiency/>)
- Academic records must include an English translation. Unofficial copies may be accepted in some cases for initial admission review, however official copies must be received prior to enrollment. Course-by-course transcript evaluations are accepted.

Students must submit financial documents to be issued an I-20 for their F-1 visa application. Proof of financial support must include:

- A letter of financial support from the person(s) or sponsoring agency funding the student's time at Saint Louis University
- A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of the student's study at the University

## Application Deadlines

The final deadline for fall admittance is May 1 for international students and July 1 for domestic students.

## Tuition

Tuition	Cost Per Credit
Graduate Tuition	\$1,450

Additional charges may apply. Other resources are listed below:

Information on Tuition and Fees (<https://catalog.slu.edu/academic-policies/student-financial-services/tuition/>)

Miscellaneous Fees (<https://catalog.slu.edu/academic-policies/student-financial-services/fees/>)

Information on Summer Tuition (<https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer-current/>)

## Requirements

Code	Title	Credits
<b>Required Courses</b>		
GIS 5010	Introduction to Geographic Information Systems	3

GIS 5030	Geospatial Data Management	3
GIS 5040	Introduction to Remote Sensing	3
GIS 5050	Digital Image Processing	3
<b>Elective Courses</b>		
Select one of the following:		3
GIS 5061	Photogrammetry	
GIS 5080	Digital Cartography and Geovisualization	
GIS 5090	Introduction to Programming for GIS and Remote Sensing	
GIS 5091	Advanced Programming for GIS and Remote Sensing	
GIS 5092	Machine Learning for GIS and Remote Sensing	
GIS 5100	Microwave Remote Sensing: SAR Principles, Data Processing and Applications	
GIS 5110	Interferometric Synthetic Aperture Radar (InSAR)	
GIS 5140	Satellite Geodesy	
GIS 5970	Research Topics	
BIOL 5190	Geographic Information Systems in Biology	
<b>Total Credits</b>		<b>15</b>

## Contact Us

For more information about our program, please contact [eegsgrad@slu.edu](mailto:eegsgrad@slu.edu).

## Continuation Standards

Students must maintain a cumulative grade point average (GPA) of 3.00 in all graduate/professional courses.

## Roadmap

This roadmap is just one example of a semester-by-semester plan of study for this program. There are other plans students can and do take. The plan of study for each particular student is established in consultation with each student's academic advisor; *this roadmap does not replace academic advising appointments.*

*Roadmap notes:*

- This Roadmap assumes full-time enrollment unless otherwise noted.
- Courses/Milestones marked with an "!" are critical and must be completed in the semester listed in the Roadmap to ensure a timely graduation.
- Course availability and sequencing are subject to change.

Course	Title	Credits
<b>Year One</b>		
<b>Fall</b>		
GIS 5010	Introduction to Geographic Information Systems	3
GIS 5030	Geospatial Data Management	3
GIS 5040	Introduction to Remote Sensing	3
<b>Credits</b>		<b>9</b>
<b>Spring</b>		
GIS 5050	Digital Image Processing	3
Any 5000-level GIS Elective Course		3
<b>Credits</b>		<b>6</b>
<b>Total Credits</b>		<b>15</b>