

# GEOSPATIAL TECHNOLOGIES CERTIFICATE

Undergraduate Upper Division Certificate  
<https://www.towson.edu/cla/departments/geography/undergrad/geospatial-technologies-certificate/>

## Requirements

### Admission Requirements

Students wishing to pursue the certificate must have completed GEOG 221 (or equivalent) with a C or higher. Students must be a degree-seeking student at Towson University or have completed a bachelor's degree from a regionally accredited college or university in order to pursue this certificate.

Students with a bachelor's degree may also be qualified for admission to the graduate certificate program in Geospatial Technologies - please contact the department for additional information on which program would be best suited for your needs.

### Certificate Requirements

All requirements for the Certificate in Geospatial Technologies must be completed with a grade equivalent of 2.00 or higher. At least four of the courses listed must be completed at Towson University.

Code	Title	Units
<b>Required</b>		
GEOG 321	INTRODUCTION TO REMOTE SENSING AND PHOTOGRAMMETRY	3
GEOG 322	INTRO TO GEOGRAPHIC INFORMATION SCIENCE	4
Three electives from the following courses:		9
GEOG 323	CARTOGRAPHY AND GRAPHICS I	
GEOG 408	APPLICATION OF GIS IN EMERGENCY MANAGEMENT	
GEOG 414	GIS APPLICATIONS	
GEOG 416	ADVANCED REMOTE SENSING: DIGITAL IMAGE PROCESSING AND ANALYSIS	
GEOG 426	GIS DATABASE DESIGN	
GEOG 428	PYTHON SCRIPTING FOR ARCGIS	
GEOG 465	ADVANCED TECHNIQUES IN GIS	
GEOG 471	GEOSPATIAL TECHNOLOGIES SPECIAL TOPICS	
<b>Total Units</b>		<b>16</b>

## Learning Outcomes

Upon successful completion of the certificate, candidates will be able to:

1. Demonstrate conceptual foundations of geospatial technologies.
2. Demonstrate competence in the use of GIS and their practical applications.
3. Effectively use remote sensing as a tool for environmental or landscape problem solving

4. Use GIS to analyze spatial data to reveal spatial patterns and relationships.
5. Convey geographic information effectively through maps.