

Academic Assessment Report: Certificate of Proficiency in Geospatial Technologies (GISTCP)

Department of Geosciences

May 2024

This assessment report of the Certificate of Proficiency in Geospatial Technologies (GISTCP) is largely based on the learning outcomes and assessment techniques of the initial GISTCP assessment plan prepared in Jun 2018.

For context, in the 2023-2024 academic year, two students have graduated from the program. Ten students are currently active in the program. Admission and initial advising are conducted outside the department.

A. Learning Outcomes: GISTCP

- Understand broadly the impact of geospatial technology and data
- Understand fundamental 2D computational geometry and interaction with GIS entities
- Key elements of Python programming relevant to current trends in GIS
- Spatial analysis using mainstream GIS software
- Statistics and geospatial data
- Detailed experience with the database systems capacity in GIS

B. Assessment Techniques: GISTCP

- Based on data acquired in Spring 2023, when considering all students enrolled in certificate classes, most students are not pursuing it. Given this context, the assessment methods indicated below are clear and easy to implement in the real world.

Table 1. Learning outcomes and corresponding methods of direct and indirect assessment.

Learning outcome	Assessment	
	Direct	Indirect
Understand broadly the impact of geospatial technology and data	Score gains between pre and post tests administered by instructor	GEOS 3543 grade
Understand fundamental 2D computational geometry and interaction with GIS		GEOS 3013 grade
Key elements of Python programming relevant to current trends in GIS		GEOS 3103 grade
Spatial analysis using mainstream GIS software		GEOS 3553 grade
Statistics and geospatial data		GEOS 3563 grade
Detailed experience with the database systems capacity in GIS		GEOS 3593 grade

a. Direct Assessment

- i. Pre- and post-test comparisons have not been developed by GISTCP instructors, partly due to the demands of the technology's rapidly changing nature.

b. Indirect Assessment

- i. As of May 2024, ten students are actively enrolled in the GISTCP program and two graduated from the program during the 2023-2024 academic year.

C. Timelines for Data Collection and Analysis: GISTCP

- The GISTGC was approved by ADHE in 2014. Since the initial plan for assessment was created in Jun 2018. The assessments should be conducted by the GISTCP coordinator with the cooperation Department of Geosciences, University of Arkansas Global Campus, and faculty participating in the GISTCP.

D. Use of Results: GISTCP

- Results of the assessment will be communicated to participating GISTCP faculty, coordinator(s), and director, participating University of Arkansas Global Campus staff, curriculum committee, Geosciences chair, CAST director, and Fulbright College of Arts and Sciences dean.
- Based on the metrics examined, the geography curriculum committee will coordinate by making appropriate recommendations for program changes.

Future work should focus on collecting and reporting results so that the assessment can aid the curriculum committee/department in making recommendations to improve the GISTCP.