

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

Department of Geosciences

May 2025

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 2024-2025 academic year, two students have graduated from the program. Eight students are currently active in the program. As of this year, the department handles admissions and initial advising.

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 Spring 2025 data, not all students enrolled in certificate classes are pursuing the certificate. In this context, the assessment methods outlined below are clear and practical to implement.

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 35403 grade
Understand fundamental 2D computational geometry and interaction with GIS		GEOS 30103 grade
Key elements of Python programming relevant to current trends in GIS		GEOS 31003 grade
Spatial analysis using mainstream GIS software		GEOS 35503 grade
Statistics and geospatial data		GEOS 35603 grade
Detailed experience with the database systems capacity in GIS		GEOS 35903 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 Spring 2025, eight students are actively enrolled in the GISTCP program and two graduated from the program during the 2024-2025 academic year.

C. Timelines for Data Collection and Analysis: GISTCP

- The GISTGC was approved by ADHE in 2014, with the initial assessment plan developed in June 2018. Assessments should be conducted by the GISTCP director in collaboration with the Department of Geosciences, University of Arkansas Global Campus, and participating GISTCP faculty.

D. Use of Results: GISTCP

- Assessment results will be shared with participating GISTCP faculty, the director, relevant University of Arkansas Global Campus staff, the Geosciences curriculum committee, the Geosciences chair, and the dean of Fulbright College of Arts and Sciences.
- Based on the evaluated metrics, the Geosciences curriculum committee will make appropriate recommendations for program modifications.

Future work should focus on collecting and reporting results to support the curriculum committee or department in making informed recommendations for improving the GISTCP.