GEOGRAPHIC INFORMATION SCIENCE: CONTINUING STUDENTS AND WORKING PROFESSIONALS

Certificate of Proficiency
Career/Technical (Major Code: 01771)

The following certificate track is designed for 1) continuing students seeking training in Geographic Information Science (GIS) for their specific discipline, and 2) working professionals seeking GIS training for their present job. The program introduces both GIS concepts and applications. Special emphasis is on hands-on experience with the hardware, software, and techniques employed in science, industry, and academia.

GIS integrates innovative tools and techniques that enables users to view and analyze temporal and spatial information in an exciting, dynamic, and productive fashion. Ultimately, a GIS helps you solve problems by looking at data in a way that is readily understood and easily shared. The ability of GIS to manage, correlate, predict, model, and share spatial information, visually and dynamically, makes GIS an essential component for any spatial discipline, including (but not limited to) geography, geology, environmental science, biology, political science, anthropology, humanities, criminal justice, health, history, education, economics, real estate, and military science.

Program Student Learning Outcomes

- Students will be able to communicate their understanding and analysis results by making maps, writing research papers and technical reports, and developing multimedia presentations. Specifically, they should be able to demonstrate the principles of cartography and the convention of map making.
- Students will develop capabilities and technical skills to apply scientific research methods (in both natural and social sciences) to observe, collect, and process geographic data; to perform analysis based on the knowledge, theories and principles in geography; and to draw quantitative and qualitative conclusions. Specifically, they should be able to demonstrate the following: The capability to observe, collect, and process geographic data with state of the art technology, including GIS, Remote Sensing, GPS, field data collection instruments, as well as obtaining data from document and literature sources.
- Students will be able to demonstrate the capability to perform data analysis based on critical thinking skills and use of technical and quantitative methods, including GIS, Remote Sensing, modeling software, and statistical methods.
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Course List

Code	Title	Units
Program Requirements		
GEOG 145	INTRODUCTION TO MAPPING AND GEOGRAPHIC INFORMATION SYSTEMS (GIS)	3
GEOG 150	EXPLORING OUR WORLD-MAPS AND GEOSPATIAL SCIENCE	3
GEOG 152	GIS PROJECT DESIGN AND APPLICATIONS	3
Total Units		**9**