

Geospatial-Geoscience Connections

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This is an exciting time for those involved in the geospatial field, with the rapid diffusion of technology and the growing awareness of the power of spatial problem solving across multiple sectors of government and business. Clearly, the geosciences have embraced the use of geospatial tools (Geographic Information Systems (GIS), Global Positioning Systems (GPS), remotely sensed imagery analysis, and the integration of these technologies through visualization and web/mobile platforms).

Having geospatial skills gives students an advantage in terms of career prospects, and students with geospatial and geosciences training should have a bright future. For students in the geosciences at many two year colleges, the lack of geospatial technology training limits their prospects. Two-year colleges face the challenge of providing courses in a field that is both rapidly changing, and is only recently maturing to the point where educators and industry are establishing common curriculum goals and expectations for what it means to integrate geospatial skills into a career in the geosciences.

Three trends are changing this picture and enhance the prospects for two-year colleges to overcome the gap in geospatial skills training: First, mapping and spatial problem solving are becoming more and more ubiquitous in society. This popularization of mapping through mobile apps and web resources helps with awareness of the power of geospatial technology to help people solve problems, and is driving demand for workers with appropriate skills. Second, the 2010 release of the US Department of Labor Geospatial Technology Competency Model (GTCM) represents a major achievement, since the GTCM identifies and categorizes specific competencies, ranging from personal effectiveness and academic competencies, to more specific technical competencies needed by geospatial workers. Third, National Model Curriculum and GTCM tools, which were developed by [National GeoTech Center](#), offer critical resources for educators and students who want to integrate geospatial technology into curriculum and lifelong career development planning.

As an adopter of the GTCM approach, Lakeland Community College created a new Department of Geography and Geospatial Technology in the Fall of 2011, which includes both a geospatial technology program, and traditional general education geography courses (including a new lab course in Physical Geography, which is required in the geospatial major). The geospatial program hosts an Associate of Applied Science degree and a professional certificate in Geospatial Technology. The AAS degree is geared for students interested in pursuing a career as a geospatial professional or technician, while the certificate serves students in fields such as the geosciences, who want to add value to their current program or career trajectory. The majority of students in the certificate program already hold a Bachelor's degree, and half work in the geosciences in some way. Unlike more limited "technical" programs of the past, the GTCM approach results in a robust curriculum that places emphasis on thinking skills and the integration of critical workplace and career-building competencies. For example, students start building their career portfolio in their first semester. This approach is intended to bridge the gap between technical skills and general education, and to help give students options to transfer to a four-year institution in the geosciences or a related field, to pursue a job as a technician, or to use their new geospatial skills to enhance their existing career path.