

The Right Direction

How one apprenticeship is helping to shape the future of geospatial technology.

The Supplier



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The University of Southern Mississippi's Jack and Patti Phillips Workplace Learning and Performance Institute

THE UNIVERSITY of Southern Mississippi's Jack and Patti Phillips Workplace Learning and Performance Institute (WLPI) serves as a research and outreach institute for best practices in workplace learning and performance. The WLPI also offers students practical application opportunities through its Master of Science Workforce Training and Development (MSWTD) degree program delivered in an executive format. This blended delivery provides students the opportunity to complete the degree from anywhere in the United States. The emphasis of the MSWTD program is to define and design training and non-instructional interventions that can improve performances at the employee, work-process, and organizational levels. Students learn to think strategically and design interventions that deliver measurable workplace learning and performance results. Courses required in the MSWTD graduate program are mapped to the ASTD 2004 Competency Model. Additionally, a web-based competency management system that documents student achievement within the nine areas of practice in that competency model is being piloted.

In addition to offering academic programs, the WLPI engages in competency model and accountability research and development. One example is the Institute's implementation of a competency model as an innovative 21st century workforce development solution for a high-growth, high-technology industry.

Building geospatial workforce capacity

Ever wonder what makes those new gizmo screens on automobile dashboards work? Many cars now promise never to let you get lost or even need to ask for directions. Modern technology surrounding the geospatial industry is the catalyst for those new inventions. Remote sensing, geographical information systems (GIS), and global positioning systems (GPS) are the technologies that make those inven-

tions work. Projected to change the way we live and work more than the personal computer, this is just one application of the technology. And the skilled workers who utilize, improve, and generate new ideas in this field are vital to keeping up with this rapidly changing industry.

The geospatial industry is urgently seeking skilled technologists. With the growth of the industry estimated by NASA to swell from \$5 billion in 2000 to \$30 billion by the end of 2005, there is a need for skilled workers now. So, how do we upskill and get some not-so-technosavvy employees ready to take the challenge? A partnership among education, industry, and government groups created a new apprenticeship program that answers the call. The ongoing efforts of this partnership help strengthen the United State's geospatial workforce.

The University of Southern Mississippi's WLPI, Mississippi's community colleges, the U.S. Department of Labor, and industry partners are piloting the Geospatial Technology Apprenticeship Program (GTAP). This program allows geospatial apprentices to build competencies and earn a nationally recognized credential, *Geospatial Specialist*, issued by the Department of Labor.

Not your grandfather's apprenticeship

To realize the impact of the apprenticeship program on today's geospatial workforce, erase any preconceived notions you have about apprenticeship programs. This 21st century workforce development solution is not designed as a blue-collar or unionized apprenticeship program. The GTAP was built with an output-driven, competency-based approach: The WLPI, through NASA sponsorship, developed the industry-driven Geospatial Technology Competency Model. It describes the 12 roles, 138 deliverables, and 39 competencies that people need to be successful in the geospatial industry. The model is used by organizations as a tool for better employee recruiting and selection, performance

Have a success story and want to tell us about it? Contact Eric Brandt at 703.683.8175; ebrandt@astd.org

management, succession planning, and as a training and performance improvement framework. While performance improvement initiatives based on work-oriented task analysis can become dated as work undergoes dynamic change, training programs based on competency assessment are more flexible and, perhaps, have more durability. The GTCM and the GTAP are not academic models created in an ivory tower; rather they are grassroots efforts developed using proven research methodologies that are derived from participation by industry, government, and education representatives. Partnerships that bring together all stakeholders are consistent with the WLPI's commitment to create a customer- and industry-driven model and to utilize existing resources to create systemic change in how students and the incumbent workforce are trained and retrained.

What's in it for me?

The apprenticeship program is a winning situation for apprentices and employers. Some of the requirements of the program mandate that the apprentice be a full-time employee of a company approved by the Department of Labor. During the one- to two-year program, apprentices enjoy the coaching of a journeyworker or mentor who helps them gain specific knowledge, skills, and abilities. Those competencies are demonstrated through structured on-the-job learning activities. The apprentice also is required to complete up to 21 semester hours of geospatial course work—which are transferable into a four-year institution—at the community college. Key to the design of the program is the flexibility for participants to enter the program according to their current levels of expertise and experience. Participants, whether they are recent high school graduates or have earned advanced degrees, are eligible to enter into this dynamic industry through GTAP. Apprentices “earn while they learn” during the program and receive periodic pay increases. Employers have the benefit of a structured way to train and retrain employees while being a part of this innovative workforce solution.

Technology-enabled workforce

The GTAP utilizes a robust web-based competency management tool to monitor and track the progress of apprentices. Embedded in the competency management process is an Individual Development Plan (IDP) based on self-assessment, instructor assessment, and learning activities targeted toward specific geospatial competencies. When students complete GTAP, they will leave with a transcript identifying the achievement of geospatial competencies. One goal of the project is for students' IDPs to be available for them after the apprenticeship program and continue to be used as their Professional Development Plan for future career development.

Another online tool, the Geospatial Professional Online Assessment Tool (GPOAT), as a self-assessment, can be used to determine an individual's key role of interest or practice for the industry. GPOAT allows a person interested in the geospatial industry to determine where they fit into this field or where they would like to fit. The results of the assessment provide a framework for individual career development and a baseline of levels of expertise. Another use of the tool is to help human resource managers find and retain geospatial professionals.

Understanding what geospatial specialists need to know and be able to do is the basis for helping them achieve better performance at work. And this understanding of workforce requirements for geospatial technologists must be the basis for developing innovative programs and tools that link to performance requirements for the workforce. Being able to provide specific training that links to the industry's performance requirements is the key for the success of future geospatial technologists. The success of the United State's competitiveness requires that we meet the workforce development challenge head on. The WLPI is developing some of the most creative and compelling workplace learning and performance solutions needed for the 21st century. The Geospatial Technology Apprenticeship Program certainly has industry stakeholders going in the right direction, no geospatial pun intended.