

# Increasing demand for land surveyors sparks changes

Despite some criticism, Purdue University moves program into different department to attract more students

By **Scott Olson**  
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Purdue University is mapping out a controversial strategy to produce more land surveyors amid growing demand for graduates entering the profession.

The number of Purdue students interested in pursuing a surveying career has dwindled to just a dozen out of roughly 500 enrolled in the university's School of Civil Engineering.

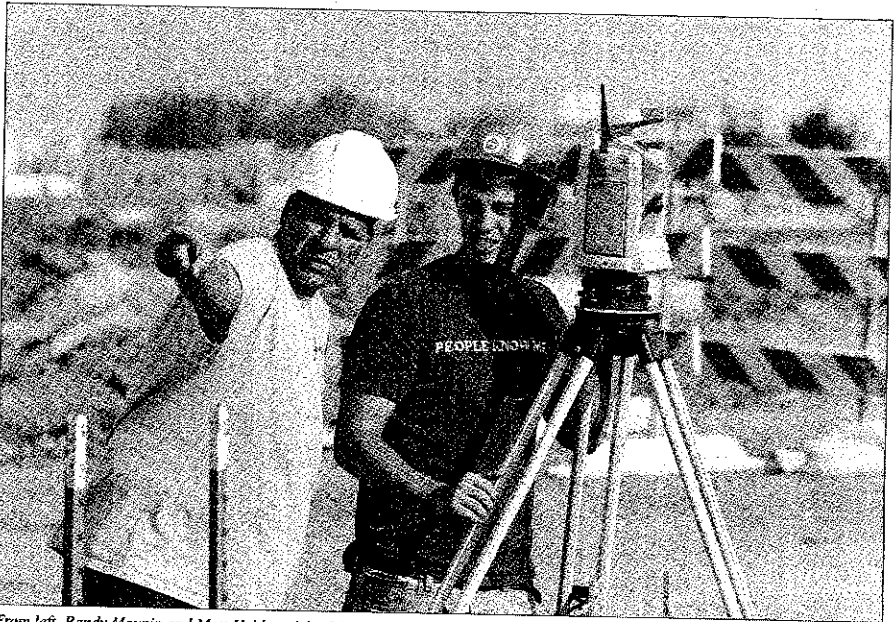
M. Katherine Banks, head of the school, attributes the dearth to a lack of visibility the surveying program endures tucked within the larger department.

"We need a fresh start," she said. "The industry has been very interested in us producing more students because [companies] have a hard time identifying enough of them."

Banks outlined in a July letter to land surveying and geomatics engineering alumni the university's decision to move surveying from the School of Civil Engineering to the Department of Engineering Education. The result would be a land-survey option students could earn within the engineering education degree.

That department is a multidisciplinary studies program that offers a "hybrid degree" by giving students exposure to

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From left, Randy Maupin and Matt Heidenreich of American Structurepoint survey land at the Hamilton Town Center in Noblesville.

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multiple engineering fields. Its most famous graduate could be Nextel Cup driver Ryan Newman of South Bend.

The switch should give more engineering students an introduction to land surveying, which ultimately could lead to a career, rather than limiting access to the smaller civil engineering program, Banks said.

But some within the profession don't support the decision and think the move will further damage an already-fragile program. Bryan Moll, survey department manager at locally based engineering firm American Structurepoint Inc., is among the critics.

"I think it's going to be the death of the program," he said. "Surveying is highly detailed and not very sexy. You're burying it in a program that is not as high-profile as the civil engineering program."

Directors of the Indiana Society of Professional Land Surveyors regret that the current land-surveying program will end in May 2010, but believe it is time for its membership to endorse the change, said Ed Sweetland, the society's president.

To that end, directors are devising a marketing plan they hope to launch by next summer in which professionals will meet with several hundred incoming freshmen during their introduction to engineering class.

That differs from the traditional way of having land-survey faculty lecture civil engineering students about the profession during an introduction to civil engineering class, which might have only 50 to 100 students, said Sweetland, a project manager at locally based surveying and engineering firm USI Consultants Inc.

"The society hasn't been able to market like we should," he said. "We're not as involved in the community as we should be. That's our main problem."

**Other alternatives**

Another change involves introducing a five-year dual bachelor's and master's degree program with an emphasis on land surveying. The advantage is that graduates earning an accredited master's degree would not have to take additional coursework to become registered.

That's important because the Clemson, S.C.-based National Council of Examiners for Engineering and Surveying will require engineering students to log 30 hours of upper-level undergraduate or graduate-level coursework, or hold a master's degree, before taking the engineering licensure exam. About half of land-surveying graduates take the exam.

The change is slated to take effect in 2015 and would need to be adopted by the state, however, because it licenses engineers.

Other options under consideration:

- A minor degree in land surveying that could attract students from other areas of engineering. The minor would require the 30 hours of course credit in surveying.

- An "area of emphasis" for land surveying in the School of Engineering.

- A surveying option for students in Purdue's undergraduate building construction management program within the university's College of Technology.

Teaming with the College of Technology would allow the university to be more efficient with state funding, Banks said, by

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*M. Katherine Banks, Purdue University School of Civil Engineering leader*

sharing equipment and technology.

College of Engineering Dean Leah Jamieson is forming a committee to work with the School of Civil Engineering and the College of Technology to review possibilities. The committee will include administration and faculty members, representatives from industry and government agencies, and members of the State Board of Registration for Land Surveyors.

**High-tech profession**

Purdue grad Gary Kent, director of integrated services at The Schneider Corp., the city's largest engineering firm, is vice chairman of the state board and a member of the committee.

He said the land surveying profession has two strikes working against it: an aging work force that could lead to a labor shortage and a perception that surveyors do little more than stand in the street holding a stick. Those actually are survey technicians who are not licensed.

"There is no question that there is a good, solid opportunity for registered land surveyors, particularly those coming out of a four-year program like Purdue," Kent said. "They get snatched up pretty quickly."

Purdue is the only university in the state that offers a bachelor's in land surveying. Purdue's Calumet and Fort Wayne locations, as well as Vincennes University, have associate's programs. Starting surveyors typically earn \$50,000 a year.

Surveying is a requirement in the planning of nearly every form of construction, mapping and the definition of legal boundaries for land ownership. It increasingly has gone high-tech in recent years.


Equipment that relies on the Global Positioning System has been taking over for the tried-and-true method of using an optical instrument and the so-called rod man to survey land.

Over the past decade, civil engineering firms that could afford expensive GPS devices have been making the switch to the modern technology, which can pinpoint positions within centimeters. And just like high-definition televisions, the technology is quickly becoming more affordable.


Since the late 1990s, an initial investment in the machinery has dropped from about \$60,000 to \$20,000. Equipment that once operated on a truck battery can now be held in one's hand or a backpack.

In addition, Kent said he's often called as an expert witness in court cases involving automobile accidents in which the location of a utility pole or the design of a highway may be questioned. Boundary disputes involving neighbors also are part of his foray.

Said Kent: "We do some tremendously cool stuff."



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