

ICC seeing growth in cutting-edge secure software program

By Gary L. Smith

When Cameron Privett graduated from Pekin Community High School in May 2015, he felt confident he would be moving in the right direction to further his educational and career goals by entering the Secure Software Development program at Illinois Central College in August.

The school had just announced its plans to create the nation's first federally approved program that would offer an Associate of Applied Science degree in that field and also an apprenticeship plan in conjunction with the Greater Peoria Economic Development Council's Central Illinois Center of Excellence for Secure Software (CICESS) initiative.

"My senior year, I was really heavy into IT classes," and the ICC curriculum fit nicely in with those interests," he recalled. "I had heard about the program. (An ICC official) had come to our tech classes, and I went to some informational meetings."

Now, after a year of combining classroom instruction in Computer Science with the unique hands-on experience of the apprenticeship program offered by participating businesses, Privett didn't hesitate in responding to a reporter's observation that his enthusiasm seemed to cast him as something of a poster boy for the program.

"I think it's pretty great," he said. "So, yes, I'd be happy to be a poster boy for it."

Privett is one of six students active in the innovative apprenticeship program, which is both changing and growing in its second year of operation. The students work about 2,000 clock hours while also completing 41 hours of academic credit during the two-and-a-half-year program, said Julie Howar, ICC's dean of Business, Hospitality and Information Systems.

The program came into existence to address the great need for qualified people to design software equipped to fend off cyberattacks, Howar said. The techniques employed were developed at Carnegie Mellon University and approved by the Department of Homeland Security.

"There's such a need for secure software developers," Howar said. "It's been a difficult time to get people trained in this."

In the inaugural year, Privett and others in the first group of apprentices alternated eight weeks in the classroom with eight-week work blocks. He also worked 13 weeks through the summer.

"I definitely think I'm learning a lot. It's progressing very quickly," Privett said.

For this second year of the new program, the sequence has been modified to supplement the beginning academic foundation, Howar said. Current computer science students will go through an application process later this fall, and then those accepted will complete a full semester of acceler-

ated classes before starting apprenticeships in the summer.

"Some of the employers said, 'We'd like them to have a few more classes,'" Howar explained. "We've learned our lessons along the way."

Privett's apprenticeship is at Ishpi Information Technologies Inc. The other participating companies include CEFCU, CGN Global and OneFire Inc.

"At Ishpi, we've been working on some internal tools (for use in software development)," said Privett. "They have a very structured and disciplined software development process."

That has been a very valuable component of his education, Privett said. And the benefit is mutual for employers, said Barti Perini, Ishpi's director of software process improvement.

"We see this program as a way to create future workforce capable of producing software free of vulnerabilities. These apprentices will have secure software development skills, and by the time they complete their apprenticeships, will earn (key certifications)," Perini said.

"Our experience has been great so far," she continued. "The apprentices have blended in with the ISHPI culture, learned our processes and tools, and started contributing to the organization. ... We are eagerly waiting for them to return back to their third work block."

About 50 students are interested in the apprenticeship cycle that will start in January, though they don't have to follow that path to complete the AAS degree itself, Howar said. The goal is to increase the numbers from the current six, with a special emphasis on recruiting women and minorities into a field where 95 percent of programmers are white males, she added.

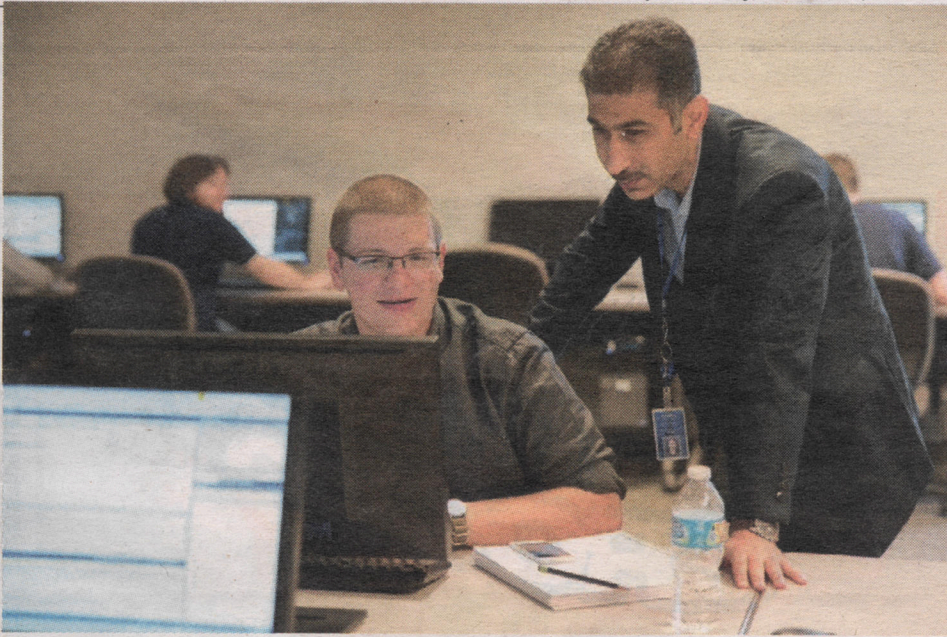
"We hope to double our numbers," she said. "We hope to see 12 placed, or maybe more if the businesses are available."

Indeed, the roster of businesses participating in the apprenticeship program is expected to increase from four to at least six in 2017, though the details have not been finalized, said Kate Cundiff, director of workforce solutions for the EDC.

"We have two more employers on board for 2017 and hope to secure one more company before the end of the year," she said. "We are really excited to help our employers fill an in-demand workforce need at their companies."

The income earned by apprentices eager to meet that demand is also much better than the wages for many jobs typically available to students, Privett noted. That will enable him to graduate in December 2017 and transition into full-time employment while also progressing part-time toward a bachelor's degree with minimal debt, he said.

"That's something that my parents have really impressed upon me," and something that will set him apart from some friends on four-year paths, he said. "Many of them are going into exorbitant



Illinois Central College Assistant Professor Rafeeq Al Hashemi works with student Cameron Privett of Pekin in a Computer Science Class that is part of the school's Secure Software Development program. Privett is one of six students in a unique apprenticeship program that combines classroom instruction with on-the-job experience at participating businesses. PHOTO COURTESY OF ILLINOIS CENTRAL COLLEGE

amounts of debt.”

Meanwhile, the program also has drawn students that otherwise might not have attended ICC, and its early growth has already sparked the addition of a new faculty member, Howar said.

But there will also be something less tangible on her mind when that first class graduates, she acknowledged.

“They’re all such nice young men,” she said. “I’ll probably be crying.”

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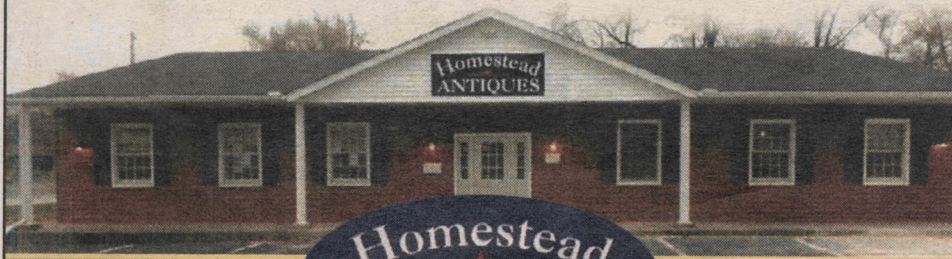
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