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SCSU programs focus on information security

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During the Cold War, there was much less confusion than there is today about who the enemy was and how it could attack.

The rise of the Internet and computers as a staple of doing business has increased the need to protect the nation's cyber infrastructure, and the federal government has made it a priority.

Federal agencies in the future could be looking to St. Cloud for the next generation of cyber warriors. St. Cloud State University recently was designated a center of academic excellence in information assurance education. That distinction, bestowed by the Department of Homeland Security and the National Security Agency, allows St. Cloud State to apply for millions in grants to build programs focused on computer and information security.

It's a growing field in which St. Cloud State plans to have a strong presence, said St. Cloud State President Earl H. Potter III.

"When you look at where the jobs are and what the need is, we need to make sure we are preparing people to meet the needs of the economy of the state," Potter said. "This is an important place for us to be."

St. Cloud State's program will offer a range of training, including designing and maintaining computer networks, detecting and preventing intrusions and digital forensics. This fall, St. Cloud State will offer a master's degree in information assurance.

The distinction of being a center of excellence has paid off. St. Cloud State in July learned it will receive \$92,082 worth of grants to provide a two-year full-ride scholarship for a student who, after graduating, is guaranteed a two-year job with a Department of Defense employer. Many such grants provide money for the host institution, and in this case it means about \$60,000 for St. Cloud State. The money will pay for new servers and a forensic station that can examine cell phones.

Those kinds of grants can help St. Cloud State grow its program the way Mississippi State University did. Mississippi State has been designated a center of academic excellence since 2001 and has received about \$18 million in research funds since, said Ray Vaughn, professor of computer science and engineering at Mississippi State.

St. Cloud State has a prime opportunity to grow its information security programs, Vaughn said.

"In a space of about 10 years, I would expect St. Cloud State University to do something similar" to what Mississippi State did in growing its programs, said Vaughn, who is also director of its Critical Infrastructure Protection Center.

The Mississippi State program began with one interested faculty member in 2001 and now has 12 faculty members affiliated with its security program from three different colleges, Vaughn said. His program averages 12-15 students a year on computer security scholarships like the one St. Cloud State received.

And with the federal government citing the field as a need, the time to capitalize is now, he said.

"This has been a critical area of need for the government for at least 10-11 years now," Vaughn said. "All indications I have are that it will continue to be a shortage area."

Mississippi State as recently as a few weeks ago helped the FBI and Texas law enforcement identify a hacker who had bragged about planning to penetrate and manipulate a hospital HVAC system, Vaughn said. The hacker has since been charged in federal court.

Mississippi State and St. Cloud State faculty collaborated in March 2008 to teach a computer forensics class at St. Cloud State to 25 officers from 18 police and sheriff's departments.

"Those are the kinds of things that we want to do, but it takes funding," said Diana Lawson, dean of the G.R. Herberger College of Business. "That's the kind of value we can add for Minnesota."

The primary source of funding to grow the Mississippi State program is federal grant dollars that are available to those institutions deemed centers of academic excellence, Vaughn said.

Mississippi State will continue to mentor St. Cloud State's program and provide curriculum material and guidance, Vaughn said.

Mark Schmidt, interim director of St. Cloud State's Center for Information Assurance Studies, attended Mississippi State and will work closely with Vaughn to develop St. Cloud State's program.

Schmidt and St. Cloud State spent two years compiling the information needed to meet the requirements for designation as a center of academic excellence.

The emphasis on information security comes as the health care industry converts to electronic medical records and more companies either host data or have electronic data they need to store. And more people are keeping sensitive data on mobile devices and storing valuable information electronically.

And while the centers are preparing some students for work with government agencies, they also are preparing many more for jobs in the private sector, Vaughn said.

"Every time we offer these security classes, they fill up," Vaughn said.

Demand could mirror what a company like CentraCare Health System saw when it began transitioning to electronic medical records. The IT staff at CentraCare has grown 20 percent to 30 percent in the last three to five years, said Charles Dooley, vice president for information services at CentraCare.

Medical records and advancements in its network spurred the growth, he said. CentraCare has about 156 IT employees, Dooley said, and the balance are focused on computer applications and user support, he said.

"It really has exploded as a component of IT in the last five years," Dooley said.
