

## **The value of Midwest cyber defense competition**

If millions of computer users go online and Google is temporarily unavailable, it's not good for business. If someone hacks into a stranger's personal computer account, that's potential for identity theft. That's when cyber security specialists come to the rescue. The key to training those specialists in school is through competition.

More than 300 students compete in the Midwest Collegiate Cyber Defense Competitions (CCDC) throughout February and March with the winning regional team testing its skills against eight other U.S. regions in the national competition every April. These events are improving every year, according to Dr. David Durkee, director of Competition Operations for Midwest CCDC, a.k.a. Mr. Competition.

"We have more than 40 teams from nine states competing in qualifying state competitions in 2013. Five years ago we had six states. We're hosting the southwest and northeast regional competitions also because they have more participants than what they can handle in brick and mortar structures," Durkee said. "It's a growing affair. People are getting interested."

Durkee also pointed out that if students put their participation in these competitions on their resumes, employers recognize and respect it. These competitions expose students to intense and realistic situations they could encounter in a job.

Competitions work like this. Professionals in the industry act as judges and "penetrators" (a.k.a. hackers). Student teams act as IT employees of a company who take instructions from the judges who act as the CEO. Meanwhile, the penetrators take advantage of vulnerabilities in the computer system and cause mischief. The student teams must secure the networked computer system while maintaining standard business functionality. The team to accomplish this task best wins. State team winners advance to regionals and the winner from each region goes to nationals.

The Midwest Regional CCDC will be hosted by the Center for Systems Security and Information Assurance (CSSIA) at Moraine Valley, March 22-23. This event will use Moraine Valley's Virtualization Data Center, a one-of-a-kind cyber lab with 192 servers that students can virtually log onto for competitions. Teams will compete virtually or on campus. "We used to have one site where schools would come to compete. We'd set up in a school's classrooms, and I'd build a network. It was hard because we had to do it

after class. Then we hit on virtual environments, cyber stadiums,” Durkee said. “This is credited to Erich Spengler [director and principal investigator of CSSIA and Moraine Valley professor of computer integrated technologies] because he helped build a remotely accessible environment so schools can compete from their site and remote access in.”

In these tough economic times, the demand for IT competent employees is high. Unlike 15 years ago when a modicum of skills would garner a job, today people need a robust set of abilities. “The goal of the competitions is to promote rapid learning of skills. In the classroom, students only get vignettes, just little things they have to do. It’s like a mechanic who learns how to use a lift versus having to put it together,” Durkee said. “A lot of students, especially first timers, say they had no idea what this field was about until competition.”

Students are thrown in the fire at competitions. If a team struggles or hits a roadblock, the judges go in to help them figure out the problem. Despite the challenge, it’s beneficial. “We’re not going in and holding their hand. We treat it like a business. The manager wants to know when the cash register will be up and earning money again. In the real world, if a piece of equipment doesn’t work, like if Google is down for a couple hours, that’s not good,” Durkee said. “Students are shocked when they get in a competitive environment. Technology advances so quickly.”

Sometimes students have a better appreciation for what cyber security is all about. Durkee recalled, “I had a student tell me, ‘After the competition, I knew that’s what I wanted to do—be a security professional.’ Now he’ll be a scoring manager at an upcoming competition.”