



# UTSA

*We've been training cities, educating students and hosting a college cyber security championship.*

## *'Secures' Number One* IN THE NATION

Greg White, an Air Force veteran, looks out of his office, water on a compact disc serving as a coaster. "It's my way of making old technology still good for something," he jokes. But White helps lead one of the most serious areas the university deals in. We sit there, taking in UTSA just being ranked number one in the country in the issue of cyber security, according to a survey conducted by the Ponemon Institute for Hewlett-Packard. "Many institutions overlook its importance," says White, who serves as the Director of the Center for Infrastructure Assurance and Security (CIAS). "That's just what the people causing trouble in technology are hoping."



Though several arms led to the number-one ranking, let's begin with CIAS. The Department of Homeland Security hired the school to go out to more than 50 cities to teach them how to protect themselves, stretching the map from Augusta, Maine to Costa Mesa, California. And that's exactly what CIAS did. "The funny thing is that people think it's meeting with IT experts," he says. "They already know what needs to be done. It's meeting with members of police, sometimes mayors, people who are leaders but have never been trained on how easy it is to have a security breach. If we can make them understand then they'll pass that message on to others. They'll change their conduct."

You may imagine this is somehow teaching them complicated encryption. Possibly turning them into a computer maven. But a key factor is just actually not overlooking the basics. "Some of the best training principles you can have is to not overlook the everyday," he says. "I've seen people with passwords for their computers that were so obvious. Sometimes it's literally whatever month it is...Or it's private documents that need to be shredded but aren't. There are people diving in dumpsters to get that material. You think it's someone just trying to get cans to recycle—that's what the bad guys count on. If we don't educate the average person, the results will be devastating. That thought process is true cyber security."

They've also created a program for young children to be rolled out shortly. "What we are doing is developing some 'learning modules'/ games for teachers to use to help their students learn something about security and online safety," he explains.

Research is critical to UTSA's cyber security strength as well. Under the leadership of Ravi Sandhu, the Institute for Cyber Security (ICS), established with a \$3.5 million grant from the Texas Emerging Technology Fund, helps achieve this. The Institute's philosophy is to give

equal priority to achieving desired security by use of existing security technology where applicable and invention of new security technologies where needed. In fact, ICS has built and operates two research laboratories (FlexFarm and FlexCloud), both grant-funded and even receiving additional support from Dell Computers, Rackspace, Joyent and the United States Air Force Office of Scientific Research. "Our goal is to conduct world-leading research on cyber security for real-world impact!" Sandhu says.

Next, the Center for Education and Research in Information and Infrastructure Security provides research opportunities as a joint entity of the College of Business and the College of Engineering. The Advanced Laboratory for Infrastructure Assurance is a leading initiative of the Center, supporting faculty research in many areas, including network intrusion detection, development of forensic search algorithms and security modeling with genetic algorithms.

UTSA also offers challenging academic programs for students interested in a career in cyber security, whether their focus is computer programming and networking or applying technology to an organization's needs. The Department of Information Systems & Cyber Security offers a Ph.D. concentration in information technology, an MBA concentration in infrastructure assurance and a B.B.A. in infrastructure assurance. The Department of Computer Science offers B.S. and M.S. degrees in computer science with concentrations in computer and information security.

## Getting Competitive

And UTSA offers cyber security competition in a different arena. Helping to create an intensive two-day real-world contest known as the National Collegiate Cyber Defense Competition, some of the best computer minds in the nation come together in San Antonio to push each other to the limit.

Maybe think the coding competition scene from the film about the birth of Facebook, *The Social Network* -- only more official and with a bigger space.

As explained on the Competition web site, it is "...unique in that it focuses on the operational aspect of managing and protecting an existing network infrastructure. While other exercises examine the abilities of a group of students to design, configure, and protect a network over the course of an entire semester, this competition is focused on the more operational task of assuming administrative and protective duties for an existing 'commercial' network." Teams are evaluated on everything from the high pressure of detection and response to outside threats to interacting on business requests.

"It's not just that it's exciting to watch them perform," White says. "There are also recruiters there that result in jobs every time we hold it. It just reminds you how early technology affects young people and how advanced they are. They can change the world."

With accolades and continuing to expand its academic opportunities, where does the reach of the cyber security program extend next?

"...There are always new ways to look at the subject..." White says. "But you could say when cyber security does its job right, you don't know we're there."

Then again, a number one ranking might make that a little more difficult.