

West Texas Cyber Security Consortium

More Colleges Offer Programs in Cybersecurity

Schools take various approaches to training students for careers in IT security

By
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When Michael Kaiser speaks at cybersecurity conferences, he likes to survey the audience to see how many taught themselves the skills they use in their cybersecurity-related jobs.

"It used to be 100%, now it is 95%," says Mr. Kaiser, the executive director of the National Cyber Security Alliance, a public-private partnership working to increase cybersecurity awareness.

Mr. Kaiser and a host of others in government, universities and companies are trying to reduce the ranks of the self-taught further by bolstering the number of formal educational programs aimed at preparing workers for jobs in this burgeoning industry. The need for talent has ushered in a boom in degree programs and course offerings in cybersecurity, though the educational approaches vary widely.

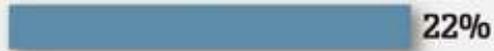
The White House has called for "a national strategy, similar to the effort to upgrade science and mathematics education in the 1950s," to meet the challenge of turning out qualified graduates to fill cybersecurity jobs.

Bolstering that effort are [National Security Agency](#) programs to vet and certify cybersecurity education programs. Nearly 200 schools, including Auburn University in Alabama, the University of Tulsa in Oklahoma and Carnegie Mellon University in Pittsburgh, have been certified as national centers of academic excellence, based on a wide range of criteria. A number of the certification programs are run in conjunction with the Department of Homeland Security.

Job Outlook

Projected percentage change in employment, 2010-20

Information security analysts,
Web developers, computer
network architects



Computer occupations



All occupations



Source: Bureau of Labor Statistics
The Wall Street Journal

Unlike an English degree, which at many colleges and universities involves a similar set of literature and writing courses, cybersecurity degree programs tend to vary widely in content from school to school.

"Schools are looking for a niche," says Ernest L. McDuffie, lead for the National Initiative for Cybersecurity Education, begun by President Obama.

For instance, the cybersecurity program at Mississippi State University, which has been designated as a center of academic excellence, has three specialized research centers. The University of Tulsa, meanwhile, tends to take a "medical school approach," where students get broad training and interact with companies locally, says Mr. McDuffie.

Some institutions offer training outside of the typical computer-focused framework. The business school at Loyola University Maryland, for example, offers a part-time, one-year graduate credit program in cybersecurity, which it describes as "a managerial approach to cybersecurity."

That kind of program can be relevant, experts say, because companies may need cybersecurity professionals whose jobs don't center on computer science, but rather on setting corporate cyberpolicy or gauging the cost of cyber risks.

At some institutions, such as Norwich University, the focus is on both education and tapping into research funding that is now available for cybersecurity-related work. Norwich, a small military university in Vermont, recently was awarded a \$10 million grant from the Department of Homeland Security to develop software that helps those in the public and private sectors plan for cyberattacks.

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