Cyber program at La. Tech positions graduates, region to lead industry

Classes cover social impacts, technology

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RUSTON — Cyber is everywhere. From the way we communicate to the way we buy goods and services to the way we share information, our lives and activities today are largely reliant on a strong and secure global cyber infrastructure.

“As a society, we are becoming more and more cyber connected,” said Travis Atkinson, assistant professor and program chair for cyber engineering at Louisiana Tech University. “To understand the scope and impact of cyber engineering, we need to take a step back and recognize that cyber is everywhere. And for that reason, we need people who understand its impact. That’s where cyber engineering comes in.”

Cyber engineering at Louisiana Tech is a multidisciplinary program that integrates electrical engineering and computer science, and concentrates on engineering in the cyber-space domain with a focus on security. It also incorporates a liberal arts perspective that engages cyber engineers in the political and social issues presented in cyberspace. Students will not only have technical knowledge but also an understanding of associated security concerns, social and political impacts, and ethical consequences.

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ONLINE

For more information on Louisiana Tech’s cyber engineering program, visit http://coes.latech.edu/cyber. Information on Louisiana Tech’s partnership with and programs to support CSC and the CIC can be found at http://ace.latech.edu.

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Students engage in a variety of courses and experiences designed to motivate the application of theoretical concepts and to promote discovery of the underpinnings of electrical engineering and computer science. Combining intense coursework and open-ended projects, the projects-based cyber courses provide students with an immersion in cyber engineering.

“Time is a constantly growing need for scientists, engineers and practitioners to gather and employ today’s information in order to improve our lives and develop innovative solutions to solve the problems of the future,” said Sumeet Dua, professor of computer science and director of Louisiana Tech’s cyber security, computer science, engineering, industrial engineering, and electrical engineering technology programs.

“Cyber growth, while opening several doors of opportunity, offers its fair share of threats. Cybercrime is one of the fastest growing threats in the world, posing risk to everyone’s privacy, finances and more.”

For Louisiana Tech’s cyber engineering students, there are opportunities to pursue internships and jobs in the field.

“CyberStorm, which serves as the final exam for students in the program, is an Introduction to Cyber Security and Computer Network Security courses used as a daylong ‘back door’ where student teams from cyber engineering and computer science engage in a fierce battle to test their skills in network defense and attack strategies. The competition is designed to raise awareness about the problems our society faces in cyberspace. The competitive part of Cyber Storm is only the tip of the iceberg, as the students are expected to apply their skills to real-world problems.”

Center in Bossier City was announced in February and will offer a comprehensive suite of CIS, cyber and computer science programs that are designed to meet the current and future needs of CSC, and will result in unique career opportunities for graduates.

The partnership with CSC and CIC is expected to have an 800 direct jobs impact statewide, within the next four years, and will expand the state’s knowledge economy by keeping more of Louisiana Tech’s graduates, from high-tech and high-demand fields, working within Louisiana. In addition, Louisiana Tech’s relationships and collaborations with CIC over the past several years have led to the development of programs such as the Cyber Discovery Camps, the Cyber Engineering Research Conferences, and the Technology, Engineering and Mathematics initiatives that will help to create the next generation of scientific thinkers and innovators in the region.

Atkinson says there are only a few other universities across the country that have similar cyber engineering programs and none that have a fully developed, four-year degree program like Louisiana Tech.

“Opportunities are endless in the nation to concentrate on engineering in the cyber-space domain,” Atkinson said. “Cyber engineering emphasizes security of systems as a fundamental research and development mantra to solve important problems. Louisiana Tech’s program is hands-on and project oriented.

“The demand for cyber engineers will continue to grow in both traditional computing and non-computing areas,” said Dua. “Small-scale businesses to large corporations and governments of both developing and developed countries will need cyber professionals to protect their assets and grow them.”

This is an exciting time in the world of cyber engineering and Louisiana Tech is already ahead of the curve in offering an innovative, immersive and comprehensive cyber education experience.”