UW-Whitewater: Extends leadership in cybersecurity with new degree

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When Dan Stein, the Department of Homeland Security's branch chief for cybersecurity education, visited the University of Wisconsin-Whitewater in 2017, he noted the university's expertise and leadership in business and computer science and encouraged it to develop cybersecurity programs to provide a pipeline for this critical industry.

Just four years later, the university has established a Cybersecurity Center for Business that provides cybersecurity education and training for businesses, local governments and educational institutions throughout the region, launched an online M.S. in Cybersecurity, and, in July, received UW System Board of Regents approval to provide a new B.S. in Cybersecurity, only the second such undergraduate degree offered in the UW System.

Building on the strength of a popular cybersecurity minor within the College of Letters and Sciences, the new undergraduate cybersecurity program will offer both a major and a minor as well as three emphases, including a cyber-operations emphasis that is designed to offer a seamless transfer pathway for two-year technical college graduates.

Provost John Chenoweth, who was dean of the university's College of Business and Economics when the online master's degree in cybersecurity was developed and launched, said, "This undergraduate program responds to the regional and national needs for cybersecurity talent to protect both business and government from cybersecurity attacks and will produce graduates better equipped to pursue lucrative, in-demand cybersecurity careers such as security engineers, security

analysts, security consultants, and security managers."

An interdisciplinary major housed in the College of Letters and Sciences, the program will involve faculty and coursework from the departments of computer science, mathematics, and sociology as well as colleagues in the department of information technology and supply chain management in the university's business college. Coursework within the degree includes intro to cybersecurity, intrusion detection, information assurance and security, statistics, discrete mathematics, programming, cryptography, and network and computer systems security.

In a collaboration with the university's Cybersecurity Center for Business, the center's cyber range will be used for hands-on simulation practice. And, while not required for the cybersecurity program, an internship will be strongly recommended.

The degree's capstone will be in cybersecurity systems engineering.

"Our Cyber 459 course is systems security engineering, which will help our students prepare for an internship," said Jiazhen Zhou, chair of the Department of Computer Science at UW-Whitewater. "It's a hands-on course designed to prepare them to apply. Companies and organizations in both the private and public sectors — from American Family Insurance, Acuity, Northwestern Mutual, and Cuna to the U.S. government and the military — are looking to develop cybersecurity talent."

The 120-credit undergraduate program will initially be offered in person, and online coursework will be added over time.

According to Cyber Seek, a project supported by the National Institute of Standards and Technology, the U.S. Department of Commerce, and the National Initiative for Cybersecurity Education, the average salary is $91,000 for a cybersecurity consultant, $99,000 for a cybersecurity engineer, and $103,000 for a cybersecurity manager/administrator.

For information on UW-Whitewater’s B.S. in cybersecurity, contact Jiazhen Zhou, chair of the Department of Computer Science, at zhouj@uww.edu or 262-472-5172.