This internship arms students with the skills they need to battle cybercrime now and in the future

University Information Technology Services
January 2023

By providing hands-on experience in the University's Security Operations Center, an internship program is not only preparing students for future careers in cybersecurity but is also meeting a real-time need to address issues that threaten information technology systems on campus.

As the economic impact of cybercrime has grown, so has the need for cybersecurity professionals. That increased demand led to rapid growth of the University's cyber operations program, resulting in the creation of the College of Applied Science and Technology in 2019.

Today, the college's Security Operations Center Internship Program gives students the opportunities they need to prepare for a future as a cybersecurity professional. The program – a joint venture between the college and the SOC, a department within the Information Security Office, which is part of University Information Technology Services – offers two internship positions and two paid student worker positions during the fall and spring semesters as well as the summer session. Internship opportunities are promoted via CAST email announcements and newsletters. Student worker positions are also available for students to apply for on Handshake.

The internship program began in 2020 to help students develop the skills they needed to move into professional roles after graduation.

"Exposing students to current security threats and giving them the hands-on experience to mitigate them is a benefit of the internship," explains Sonia Nazaroff, an information security analyst with ISO and director of the internship program for the SOC. "Giving students the training they need in college, and most importantly on the job, will develop the skills they need in the real world."

The internships "are an amazing opportunity for students to develop cybersecurity skills and experience while supporting organizations," said Paul Wagner, associate professor of practice in the College of Applied Science and Technology.

Students who do well academically and complete an internship are more likely to receive job offers prior to graduation, Nazaroff said. This hands-on experience helps students grow their professional resumes, experience and professional connections, making them appealing candidates in the job market, she explained.

Career readiness is not the only benefit of the program.

The interns address actual security issues affecting the University's IT systems, working with the SOC to mitigate real security-related incidents involving different vulnerabilities and threats the University is experiencing. Tasks include responding to phishing attacks, tracking various IT security incidents – such as email threats and compromised accounts, writing incident reports and detailing threat actors.

"It's very important for our students to see these different incidents. It's great to apply what they've learned in CAST to their everyday tasks in the SOC," Nazaroff said.

During the internship, students engage with security analysts and engineers, as well as other security and IT professionals and leaders on campus. Working with the students directly is important to answering questions, providing professional development and mentoring, Nazaroff said.

"Ultimately, we want to provide a variety of opportunities for students to develop hard and soft skills, so they can become well-rounded security professionals," Nazaroff said.

The program also tries to satisfy students' specific interests. "If they are interested in (the programming language) Python, they can work in automation. If they're interested in threat intel, we can lead them there, too," she said.

Niels Romine, a senior majoring in cyber operations with a cyber engineering emphasis, says the SOC internship has given him the work exposure and confidence to transition to a cybersecurity position after he graduates.

"It's provided me with a great hands-on learning experience that works alongside my studies. They offer a very relaxed environment that makes it fun to learn and execute new ideas," he said. "Experiencing real cybersecurity threats and working alongside other professionals in the field has provided me with tools and knowledge that I wouldn't otherwise get in classes."

Brendan Bertone, a senior studying computer science and information science, agrees.
"I've had the opportunity to work with a great team of co-workers on everything from phishing tickets to conferring with the legal team that helps protect the University. It has been amazing to get the opportunity to apply what I have learned during my degree program to help protect the school's faculty and students."

"Although the program is relatively new, it is demonstrating that students can easily move into new roles after graduation," Nazaroff said. Many graduates have moved on to jobs with Raytheon and Darktrace – a company that specializes in cyberdefense. Some former interns, like Nazaroff, have remained at the University, taking full-time positions in the SOC and HIPAA Privacy Program.

"From this specific partnership, we have been fortunate to retain students into full-time cybersecurity roles for the University," Wagner said. "This alignment of formal and informal learning opportunities is a shining example of ways to overcome the cybersecurity workforce deficit in the United States."

Source URL: https://uatwork.arizona.edu/lqp/internship-arms-students-skills-they-need-battle-cybercrime-now-and-future

Links