Cybersecurity

Hands-on training gives students real-world experience in high-tech, high-demand area

Highline is a leader in the cybersecurity field. Among its many high-profile connections with local industry, Highline's program is a member of CyberWatch West and offers student internships and job shadowing with local governments and major international companies such as Amazon Web Services, Boeing, Microsoft, T-Mobile and Weyerhaeuser.

In 2013, Highline earned designation as a National Center of Academic Excellence in Information Assurance 2-Year Education (CAE2Y) from the National Security Agency and the Department of Homeland Security. The CAE2Y designation is awarded to community colleges that have established a high quality cybersecurity program and have mapped their courses to current national standards. Being a CAE2Y institution gives Highline unique standing since fewer than 100 of the nation's 1,100 two-year colleges have achieved the designation.

With access to isolated computer labs, students do full installations of functional networks on real hardware, not just virtual machines. These dedicated computer labs give students hands-on experience in creating networks, securing networks and operating systems, practicing disaster recovery and more.

- **Grant of $58,744** from National Science Foundation (Division of Undergraduate Education, Advanced Tech Education Program) to organize and host the inaugural International Collegiate Cyber Defense Invitational (ICCDI) in 2017 and coordinate and host events again in 2018 and 2019.
- **Grant of $162,962** from National Security Agency for the Digital Forensics and Legal Curriculum project (Sept. 2017–Sept. 2019), which funded collaborative work between Highline and Whatcom College to create in-depth modules for three topics: 1) national laws, regulations and policies related to cybersecurity and digital forensics; 2) cyber forensics; and 3) cyber threats and vulnerabilities.
- **There's a growing need for professionals** who protect computer systems from outside access by hackers, malware and viruses. Between 2016 and 2026, the Bureau of Labor Statistics estimates that the demand for information security analysts, just one of many cyber-related positions, will grow 28%, currently at 100,000 positions nationwide.*
- **With more than 70 percent students of color**, Highline ranks as the most diverse higher education institution in the state of Washington and ranks fifth among four-year public institutions in the nation, making the college uniquely positioned to help diversify the computer science field.

*Data retrieved January 25, 2019, from https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm.

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Highline College hosted the first International Collegiate Cyber Defense Invitational (ICCDI) in 2017. The global nature of the event was also evident in the Highline students who designed the corporate computer network that was used in the scenario. Four of the nearly 20 Highline students who created the simulation represent the diversity of the college's campus, which is home to many immigrants: Amna Hadzihasanovic (left, born in Germany), Ederly Beausilien (Haiti), Dmitriy Koval (Ukraine) and Boo Park (South Korea). The ICCDI was held again in 2018 and 2019, thanks to support from the National Science Foundation and corporate partners. Highline is seeking outside funding to hold the event again in 2020.

Students in Highline's Bachelor of Applied Science in Cybersecurity and Forensics program represented the college at the Department of Energy's CyberForce Competition late in 2018. The team's top 10 finish was the highest of any community college in the field of nearly 70. Pictured clockwise from top left: Kevin Hall, Andrew Canino, Sarah Conrad, Lauren Gallegos, Paul Bracken and Quentin Mattson.

TRAINING THE NEXT GENERATION OF

Cyber Defenders

Competitions Provide Real-World Experience

Highline has a history of giving cyber defense students the chance to participate in real-life scenarios through competition. A perennial host and organizer of the Pacific Rim Collegiate Cyber Defense Competition (PRCCDC), Highline welcomes a dozen or so college and university teams from around the Pacific Northwest each March. For PRCCDC, which is a qualifier to the National Collegiate Cyber Defense Competition, Highline students — with support from the college's Information Technology Services staff members — design the company network used in the simulation, complete with intentional security flaws.

HIGHLINE COLLEGE