Closing Washington’s Cybersecurity Workforce Gap

Everyday seems to bring reports of major data breaches and information hacks of government agencies, corporations, and individuals. It is both a global and local problem. Yet, experts predict there will be a worldwide shortage of two million cybersecurity professionals by 2019. According to Cyberseek, which compiles cybersecurity career information for the U.S. Commerce Department, 40,000 jobs for information security analysts go unfilled in the U.S.—with many of those jobs located in the state of Washington.

To address this critical shortage in Washington’s cybersecurity workforce, Central Washington University proposes to expand its unique Information Technology and Administrative Management (ITAM) cybersecurity bachelor’s and master’s degree programs.

CWU: At the Forefront of Cybersecurity Education

CWU is the only university in Washington state that offers a cybersecurity degree program that combines information technology and business management education. CWU grads enter the workplace understanding not only technology but also how it works in the business world.

Graduates of the CWU ITAM program know how data networks integrate throughout business and government organizations and how these networks are used by employees and customers who are not computer scientists. These high-demand graduates are the first line of defense in a proactive and dynamic cybersecurity systems that protect government and business.

Partnering with a Global Leader in Cybersecurity

CWU’s partnership with the internationally recognized Spanish cybersecurity agency INCIBE, offers a unique dimension, not offered by other Washington state colleges, to this academic program. With INCIBE’s strong and world-recognized background and experience in real-time cyber defense, students have the opportunity to learn about and apply international cybersecurity policy and real-time international hacking practices.

Strategies to Close the Gap

CWU’s ITAM program proposes five strategies to address Washington’s cybersecurity education gap:

1. Increase cybersecurity degree capacity by 400 students at CWU campuses in the Puget Sound area, as well in Ellensburg. Enrollment in this high-demand program has increased by approximately 70% over the past 5 years. Enrollment now is capped due to lack of faculty to accommodate student demand. CWU proposes to hire three cybersecurity faculty and one cybersecurity technician to meet the demand.

2. Increase the production of cybersecurity graduates by expanding CWU’s online FlexIT ITAM program. CWU will be able to expand this innovative online program that benefits students needing more flexible scheduling by adding three additional
cybersecurity faculty and increased cyber range and cyber forensic laboratory capacity. More teachers will substantially increase the number of Washington State job ready cybersecurity graduates by making it easier to achieve a degree.

3. **Increase enrollment and cyber degree production by expanding cyber-range capacity.** Upon the completion of a new computer science building in fall 2018, CWU will have access to a controlled internal network where students can practice creating and breaking network defenses. However, the new system will need to be enhanced and reconfigured to accommodate the anticipated increase in student enrollment.

4. **Create a digital forensics laboratory** to support highly specialized cybersecurity education programs encompassing the recovery and investigation of material found in digital devices, often in relation to computer crime. In this lab, students will practice data mining and critical analysis of a wide variety of digital data recovery and data sources.

5. **Significantly expand the number of cybersecurity certificate training opportunities** for computer professionals who need additional fast track cybersecurity management training to immediately fill critical high-demand jobs in this sector. These opportunities will focus on delivering rigorous, relevant and up-to-date training for cybersecurity practitioners already in the field.

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