

# **Cybersecurity Skills in the Classroom**

By Sheena Bolton

In the last year, there have been countless cyberattacks, ranging from service disruptions to critical data breaches, and the risks continue to escalate. As students spend more time online, it is crucial that they are aware of present dangers and how to protect themselves.

Teaching cybersecurity fundamentals can be tricky, but supporting tomorrow's talent is essential. An initiative of the Information and Communications Technology Council (ICTC), CyberTitan is one of Canada's largest cyberdefence competitions. It is a key resource for students learning critical digital and cybersecurity skills. Through an exciting and fun competition, teams of students from across Canada reinforce their creative problem-solving, analytical thinking, communication, and collaborative skills. Once it is over,

students who choose to pursue post-secondary education STEM programs are equipped with technical skills sought after by today's employers. They also walk away with new friends.

"We all had a wonderful time participating in this spectacular event," said Steven G., a former participant. "I know that I personally learned a lot from this competition, which is why I would certainly recommend others participate if they get a chance to."

Canada is in need of cybersecurity professionals. CyberTitan can be the first step for students who want to explore the thrill of protecting Canadian online data and spaces against credible cybersecurity threats. CyberTitan also opens the doors to under-represented groups like Indigenous Peoples and women in STEM. In six years, more than 5,000 students have participated in CyberTitan, including 85 all-female teams.



Figure 1 - CyberTitan VI 2021 competitor Louise is from the all-female team FalconTech Terabytches3.0



Figure 2 - Team Saints compete in their classroom for CyberTitan III in 2020

“Just go for it,” said Louise T. about starting a CyberTitan team. “It doesn’t matter if you don’t do extremely well with it,” she added. “You might be really good at it, but don’t be put off by [intimidating] figures in the tech industry.”

To help students hone their cybersecurity skills and prepare for CyberTitan, ICTC offers lots of learning resources. One such resource involves learning about the history of the internet through its asynchronous Cybersecurity

Fundamentals course. The course opens with a foundational understanding of digital identity and internet safety, then takes students through an introduction to cybersecurity skills development. Students finish the course with the confidence to recognize online threats, take steps to reduce harm, and learn what professions in cybersecurity may await them.

“CyberTitan has been a driving force for cybersecurity education in Canada, and there is no better place to start learning about the cyber-landscape than in high school and middle school,” said Devlin N.M., a former participant.

Additional cybersecurity resources are continually being offered by ICTC, including facilitated and asynchronous CyberDays that offer hands-on activities to increase digital skills and a higher understanding of computer operating systems, including defence and offence methodologies.



# About the Information and Communications Technology Council (ICTC)

The Information and Communications Technology Council (ICTC) is a neutral, not-for-profit national centre of expertise with the mission of strengthening Canada's digital advantage in the global economy. For over 30 years, and with a team of 110 experts, ICTC has delivered forward-looking research, practical policy advice, and capacity-building solutions for individuals and businesses. The organization's goal is to ensure that technology is utilized to drive economic growth and innovation and that Canada's workforce remains competitive on a global scale.

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