Expanding the K-12 Cybersecurity Teacher Pathway

Morgan Zantua – City University of Seattle

Jenny Ju – City University of Seattle

Rob Honomichl – University of Arizona

Marc Dupuis – University of Washington Bothell

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2025 CAE Community Symposium

What is the Cybersecurity High School Innovations (CHI) Project?

- A replicable model designed to equip secondary educators with cybersecurity skills and resources.

- Increase teacher expertise and confidence in teaching cybersecurity.

- Inspire more students to pursue cybersecurity courses and careers.

Cybersecurity High School Innovation Program Timeline and Impact

- Three years of secondary teacher training
  - **2022** – Pilot Year with Introductory Cybersecurity Course and Summer Summit in Seattle, WA
  - **2023** – Expansion to include Introductory Cybersecurity Course and Security+ Course with Summer Summit in Seattle, WA
  - **2024** – Expansion of curriculum to include Introductory Cybersecurity Course, Security+ Course, and Cyber Competitions and Challenges. Summer Summit expanded to Tacoma, WA, Idaho Falls, ID, and Fargo, ND.

State	2022	2023	2024
Arizona			2
Colorado	10	11	6
Connecticut			1
Georgia			2
Idaho	4	3	2
Nebraska			2
North Carolina			1
North Dakota	2		8
Oregon		1	
South Dakota	3	7	8
Washington	5	7	5
Montana		1	
Illinois		1	
South Carolina			4
Tennessee			1
Utah			1
Totals	**24**	**31**	**44**

Expansion and Replication

2025 CAE Community Symposium

Curriculum Development & Alignment

- Summer summit provides hands-on instruction, building of professional learning community and interacting with cybersecurity professionals.

- Five Week online synchronous lectures with over 20 hours of instruction

- Four-day Summer Summit

- Tiered Curriculum Approach
  - Year 1 Curriculum – Introductory Cybersecurity
  - Year 2 Curriculum – Security+
  - Integration of Cyber Competitions and Challenges

- Modular content allows for integration in current courses or development of stand-alone course

Instructional Delivery and Hands-on Learning

- 20+ hours of online instruction over 5-week period

- Summer summit provides hands-on instruction, building of professional learning community and interacting with cybersecurity professionals.

- Integration of experiential learning methods
  - Labs and real-world simulations
  - Cyber competitions, capture-the-flag, and challenges

- Provide curriculum and challenges to enhance problem-solving and critical thinking skills.

Professional Development and Networking

- Summer summit included in-person gatherings with corporate, government, and military cybersecurity professionals.

- Integration of industry panels, workplace visits, and collaborative projects.

- Provide teachers with insight and advice on preparing students for cybersecurity careers.

- Development and expansion of educator professional learning community.

Lessons Learned and Challenges

- Tailor curriculum

- Customize to audience

- Standards/No Standardization

Questions?

Contact Information

Morgan Zantua - zantuamorgan@cityu.edu

Jenny Ju - jujenny@cityu.edu

Rob Honomichl – rjhonomichl@arizona.edu

Marc Dupuis - marcjd@uw.edu

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