Building the Next Generation of Cybersecurity Faculty:

The National Community College Cybersecurity Fellowship Program

Kristine Christensen
Michele Robinson
John Sands
Christian Servin

CAE IN CYBERSECURITY COMMUNITY

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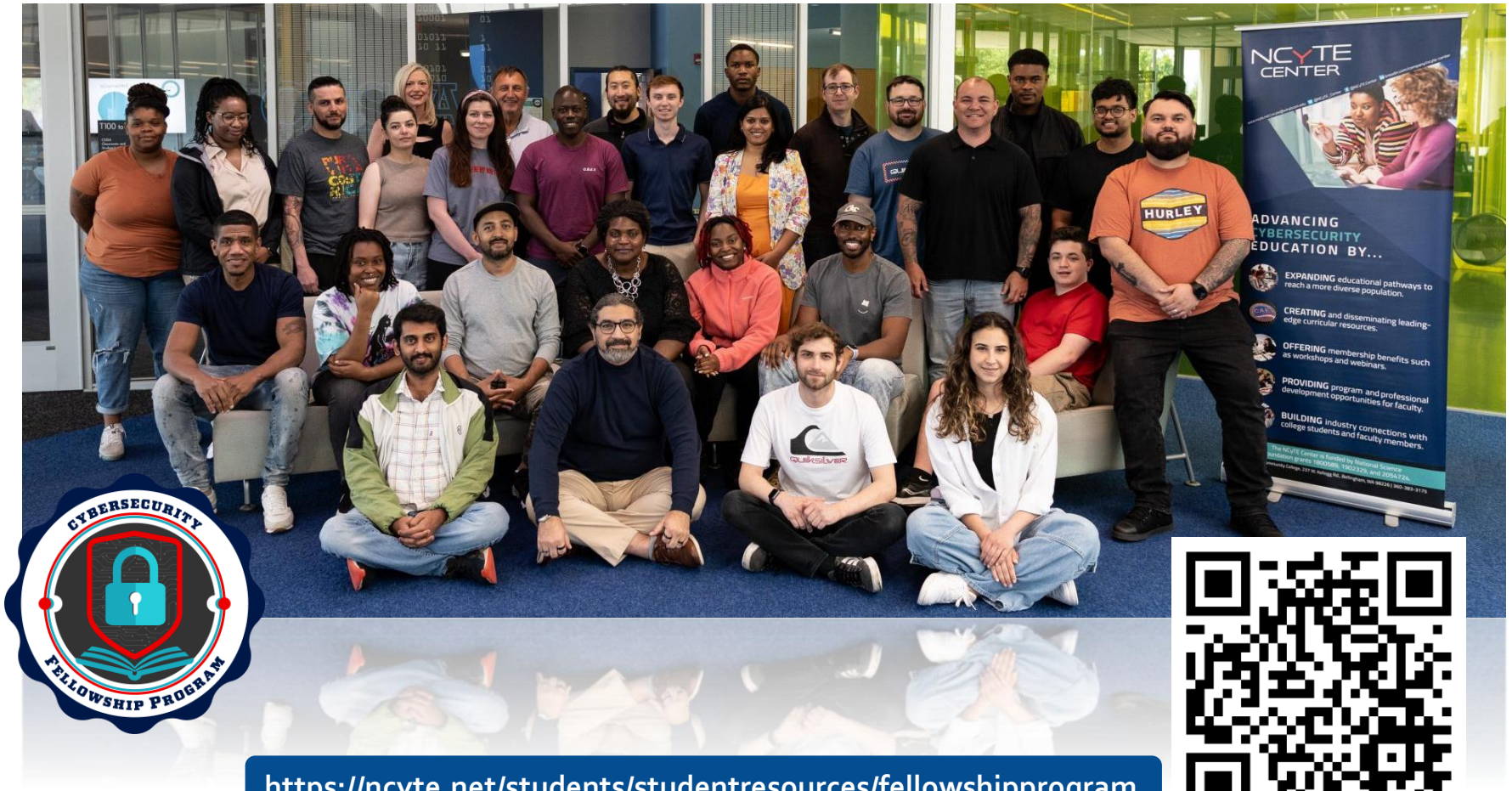


CYBERSECURITY FELLOWSHIP PROGRAM

https://ncyte.net/students/studentresources/fellowshipprogram

Supported by funding from:

NSF Microsoft

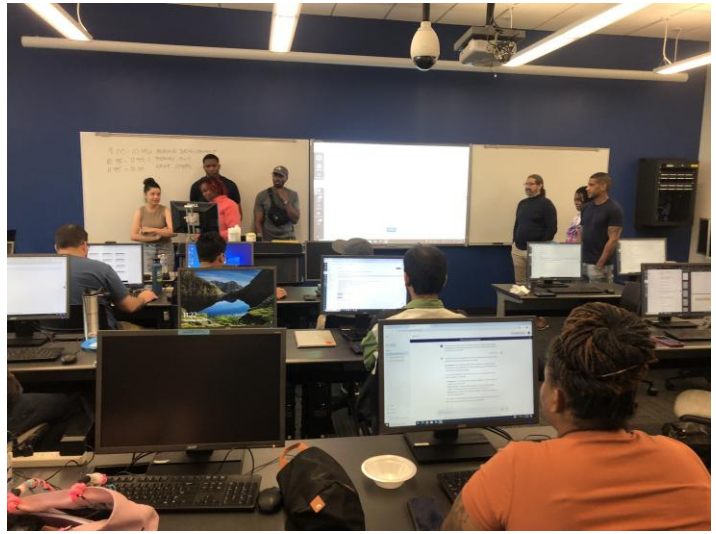
Fellowship History & Need

- **Established:** Launched in 2022 to address the shortage of cybersecurity educators.
- **Funding & Support:** Supported by NCyTE and Microsoft's Skills for Employability initiative.
- **Initial Cohorts:** Began with a small group of fellows, expanding annually.
- **Program Evolution:** Incorporated hands-on teaching assignments, bootcamps, and CAE-focused training.
- **Impact:** Many fellows have secured teaching positions at community colleges.

There is a national shortage of community college cybersecurity faculty, which impacts the quality of cybersecurity education and, consequently, the preparedness of the cybersecurity workforce (NIST)

About the Fellowship Program

- Designed to expose bachelors or graduate cybersecurity students to the rewarding career of community college teaching.
- Expand the number of educators in this critical area, emphasizing the importance of diversity among teachers.
- Offer comprehensive training, immersive experiences, and real-world teaching opportunities.



Fellowship Participants

College / University students in their final year of or recently graduated (within a year) with a bachelor's or graduate degree in cybersecurity or STEM related field.

Program Training & Milestones

- Cybersecurity Fellowship Orientation
  4 Hours
- Microsoft 21st Century Skills: Classroom Management, Methods and Pedagogy Workshop
  16 Hours
- Cybersecurity Fundamentals Bootcamp
  (Teaching Security+ Concepts)
  32 Hours
- Teaching Assistant Assignment
  60 Hours

Cybersecurity Fellowship Orientation

- All accepted candidates must attend the **4-hour virtual orientation**.
- Provides an **overview** of the Fellowship program: schedule and commitment, expectations, and opportunities.
- **Cybersecurity Education Careers:** explores rewarding aspects of educating future cybersecurity professionals.
- **Explores the role of the Community College Educator** in:
  - workforce empowerment,
  - student centered teaching,
  - excellence in CTE Programs,
  - advocating open access, and
  - reaching untapped talent.

Microsoft 21st Century Skills Workshop

- Participants complete a **16-hour virtual workshop** designed to prepare participants with basic knowledge and skills to be an effective community college cybersecurity educator.

- Training will prepare students to take the require Microsoft Certified Educator (MCE) certification.

- **Microsoft 21st Century Skills focus on the following teaching domains**:
  - Collaboration
  - Skilled Communication
  - Critical Thinking & Autonomous Learning
  - Classroom Relevance & Real-world Problem Solving
  - Use of Instructional Technology, Tools, and Techniques

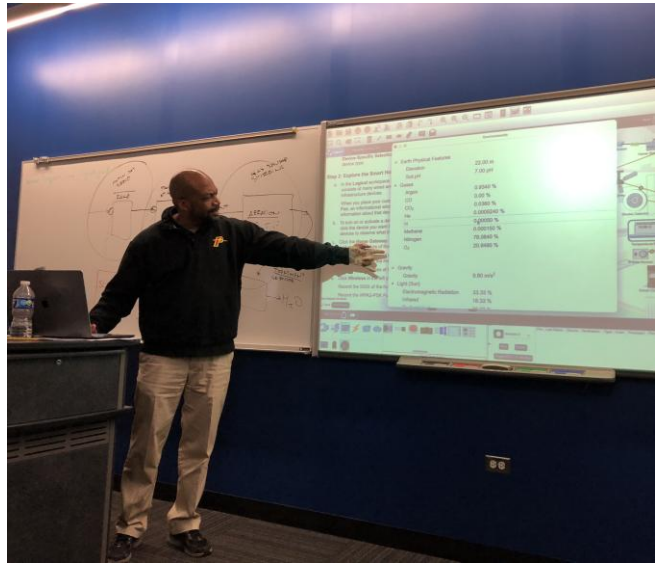
Cybersecurity Fundamental Bootcamp

Participants are expected to complete a **32-hour** Cybersecurity Fundamental Bootcamp.

- 16 hours of in-person instruction at Moraine Valley Community College – travel stipend provided
- 16 hours of virtual instruction
- Optional: Attend CyAD & Volunteer

Participants are expected to create:

- Lesson plans
- Instructional materials
- Assessments and rubrics
- Hands-on lab activities & exercises
- Collaborative, team exercises



Teaching Assignment

- Participants are placed at a participating community college as a teaching assistant.

- **Fellows** will contribute a minimum of **60 hours** of service by:
  - Leading at least one lesson
  - Develop lesson plan and instructional materials
  - Collaborate with their host college supervisor

- **Host Supervisor / Mentor** will:
  - Work with student on their detailed work plan that outlines specific projects for the semester
  - Meet with the student on a regular basis
  - Provide feedback to the student and complete an evaluation form.

We are looking for mentors!

Stipend Milestones

Microsoft 21st Century Skills Workshop - **$250**

- Prerequisite is completion of the Orientation.
- Attend all sessions of the workshop.
- Complete the eight 21st Century Learning Design (21CLD) modules & upload the MCE transcript to Canvas.
- Complete the evaluation survey at the end of the workshop.
- **Deadline:** about one week after the end of the workshop.

Attempt the Microsoft Certified Educator (MCE) certification exam - **$250**

- Provide evidence that you sat for the certification exam. Upload to Canvas.
- **Deadline:** Take prior to the Cybersecurity Fundamental Bootcamp.

Travel stipend for non-local residents to attend the Bootcamp- **up to $1,200**

- Prerequisite is completing the Microsoft 21st Century Skills workshop.
- Sign up for the Cybersecurity Fundamental Bootcamp. A registration link will be provided at the end of the Microsoft 21st Century Skills workshop.
- Must attend the two-day in-person sessions at Moraine Valley Community College.
- Complete a travel support agreement, stipends awarded based on estimated travel costs (2 days hotel, meals, airfare) up to a max of $1,200.

Cybersecurity Fundamentals Bootcamp - **$1,000**

- Prerequisite is completing the Microsoft 21st Century Skills workshop.
- Attend all virtual sessions.
- Must attend the two-day in-person sessions at Moraine Valley Community College.
- Complete any required assignments.
- Complete the evaluation survey.
- **Deadline:** about two weeks after the end of the Bootcamp.

Teaching Assignment - **$1,550**

- Prerequisite is completing the Bootcamp.
- Provide a Statement of Work signed by you and your faculty mentor.
- Participants are required to teach one lesson in a regular community college classroom and provide the required deliverables per a student teaching agreement.
- **Deadline:** December 31, 2025

Student Testimonials

Participating in this fellowship program was not only very educational but also enjoyable and rewarding. Building the module in Canvas on cybersecurity for students to learn and apply knowledge on social engineering and phishing topics was easy and user friendly. I liked the various options to create interaction among students, especially since there many remote students that view lectures on demand.

Not only was it enriching too give back through teaching, but **I personally feel that this fellowship has made me a more effective communicator as well as a better learner by expanding my horizons on various learning styles and techniques**. I would gladly endorse participation in this fellowship program to anyone in the field that wants to make a difference for the future of the cybersecurity profession.

The NCyTE Faculty Fellowship offered valuable insights and practical skills that have improved my teaching and deepened my understanding of the field. The fellowship's mix of engaging work and real-world applications made the content both relevant and interesting. **I also appreciated the chance to connect with fellow educators and industry experts, which has been beneficial beyond the program itself**.

This experience **significantly contributed to my personal growth. It enhanced my ability to communicate complex technical topics clearly and effectively**, which is a crucial skill in any field. Additionally, it boosted my confidence in public speaking and instructional design. Guiding students through the lesson and adapting to their requirements taught me some valuable lessons.

Student Testimonials

It was a good experience learning how to build a module from a perspective of an unfamiliar student. This teaching experience taught me that I do enjoy speaking and encouraging others to learn more about cybersecurity. It has eased my insecurity about needing to know everything: that is not the purpose of teaching. The purpose of knowledge sharing is to create a space where students feel empowered to share and learn from one another. The course should build relationships and allow students to respect and validate each other's goals. **I would like to teach additional courses on cybersecurity next year**.

As I prepare to search for cybersecurity jobs of all types next year, the chance to see the perspectives of others at CyAD, research a topic well enough to teach it to others, and gain perspective on pedagogy through certification and bootcamp sessions gives me a secure option, either **as full-time professional field or an adjunct/part-time role**.

Participating in the NCYTE National Community College Cybersecurity Fellowship Program was such a rewarding experience. What I enjoyed most about building and teaching the module was the opportunity to take complex cybersecurity concepts and make them accessible and engaging for students. **This experience significantly contributed to my personal and professional growth**. On a personal level, it gave me confidence in my ability to design effective learning materials and lead engaging lessons. Professionally, it strengthened my instructional and curriculum development skills while deepening my knowledge of cybersecurity topics. **It also connected me to a network of passionate educators and cybersecurity professionals who continue to inspire and challenge me.**

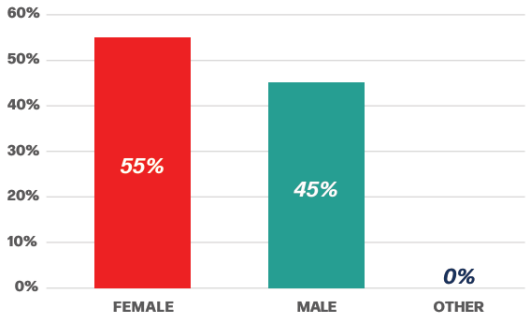
Impact

OVERALL IMPACT

100%

FELLOWSHIP GRADUATES INTEND TO TEACH CYBERSECURITY

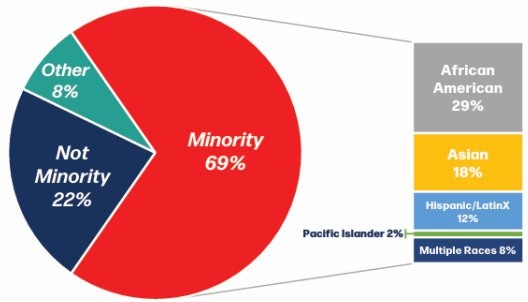
GENDER IDENTITY



82%

FEMALE OR UNDERREPRESENTED GROUPS

RACE/ETHNICITY



Percents based on 2022 and 2023 fellowship participants (N=49)

Fellowship participants complete 56 hours of rigorous training and placement as a teaching assistant or adjunct instructor.

Fellows have consistently reported substantial knowledge gains and skill development in:

- *Unique skills required for Community College educators*
- *Teaching methods for various cyber topics*
- *21st century learning design components*

95%

PASS RATE OF MCE CERTIFICATION

New:
Military & Industry Cohort

2025 – 2 Fellowship Cohorts

Collegiate

•College/university students in their final year of or recently graduated (within a year) with a bachelor's or master's degree in cybersecurity or STEM .

Military & Industry

•Retired or separated military personnel from any branch of service.

•Industry professionals with a minimum of 5 years of experience in cybersecurity or related fields (those holding cybersecurity industry certifications like CISSP or CISA are strongly encouraged).

Faculty Testimonial

In the Fall semester, I had the opportunity to work with **NCyTE Fellowship student Elif** in my entry database course. Elif was highly professional, easy to collaborate with, and brought valuable expertise to the classroom. She provided students with an engaging and insightful experience, particularly in the area of **SQL injection attacks**, where she shared real-world applications and best practices. **The materials we developed together were highly effective and leveraged our NetLabs environment**. I plan to continue incorporating the module into my course, going through a course rewrite cycle, to strengthen students' understanding of database security. I appreciate Elif's contributions and look forward to potential future fellowship collaborations.

Paul Hansford
Associate Professor, Computer Science Dept.
Sinclair College

Access the Most Up-to-Date Slide Deck (Ongoing Updates)

For the most accurate and up-to-date slide deck, please visit the link below. Changes and revisions may be made, so be sure to check back for the latest updates!

https://bit.ly/caepresentations

Questions?

Let's Connect!!

Thank You!

Kristine Christensen, Ph.D.
Christensen@morainevalley.edu

Moraine Valley Community Collee
Professor, CIS
Director, Faculty Development

Co-PI, EPNC
Program Director, National Cybersecurity Faculty Fellowship