



cyber

COLLECTIVE

# Kettering Health Hit Making National Headlines

## Ransomware attack triggers 'system-wide' tech outage at large network of medical centers



By Sean Lyngaas, CNN

3 minute read · Published 1:14 PM EDT, Tue May 20, 2025



CNN Politics Trump Facts First CNN Polls 2025 Elections

Watch Listen Live TV Subscribe Sign in



### FOR SUBSCRIBERS



Two buried 'supercontinents' hiding inside Earth could be much...



9-year-old Asha Degree vanished 25 years ago. DNA and newly revealed...



'I want to reclaim my skin': Why these people are removing their...



A pissed-off surfer crowdsourced friends — and cracked an allege...

## Cyberattack Vitals

-System-wide Technology Outage

-Procedures Cancelled

-Ransom Note: “Your network was compromised, and we have secured your most vital files.”

-Interlock: Threatens to leak information unless KH begins negotiations

# May Announcements

Serving Our Communities

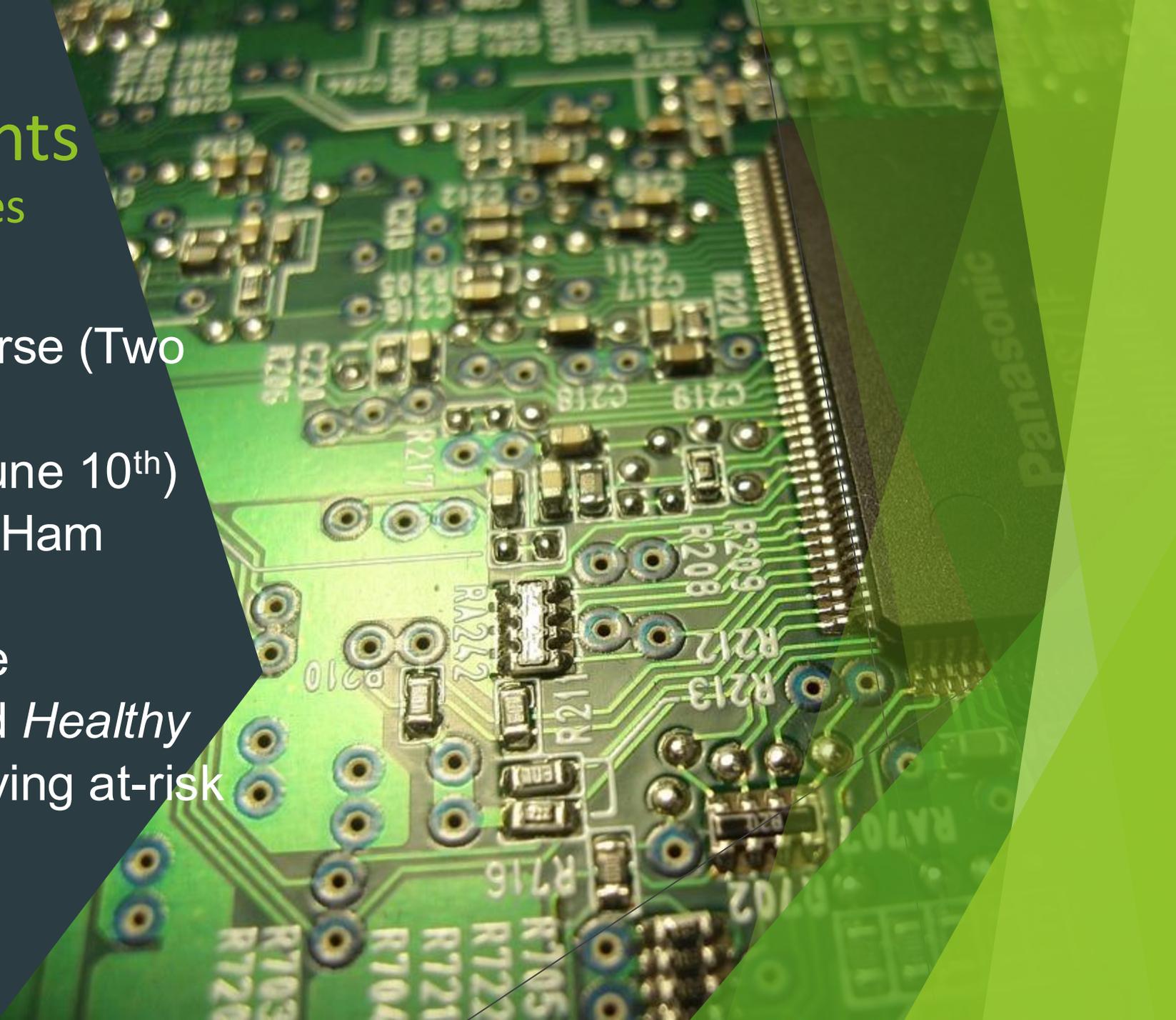
- Thank You, Fortinet!
- Cympire as a Service:  
“Play” inside the world’s premier range
- Incident Response Class
- Intro to Cybersecurity for Water Operators Launched
- Cyber 101 for Law Enforcement Certified (Sept. 8, 2025)



# May Announcements

## Serving Our Communities

- Incident Response Course (Two Day Workshop)
- “Road to Zero Trust” (June 10<sup>th</sup>)
- Workshop Ideas? WX? Ham Radio? LEADS?
- Sponsorship Committee
- *Safe Senior Surfing* and *Healthy Digital Families* are serving at-risk populations



May GoCyber  
Collective Keynote  
Speaker

- Seth Hamman, PhD.
- Director of the Center for the Advancement of Cybersecurity at Cedarville University
- Professor of Cyber Operations and Computer Science
- Helped create first BS Cyber Ops degree in Ohio



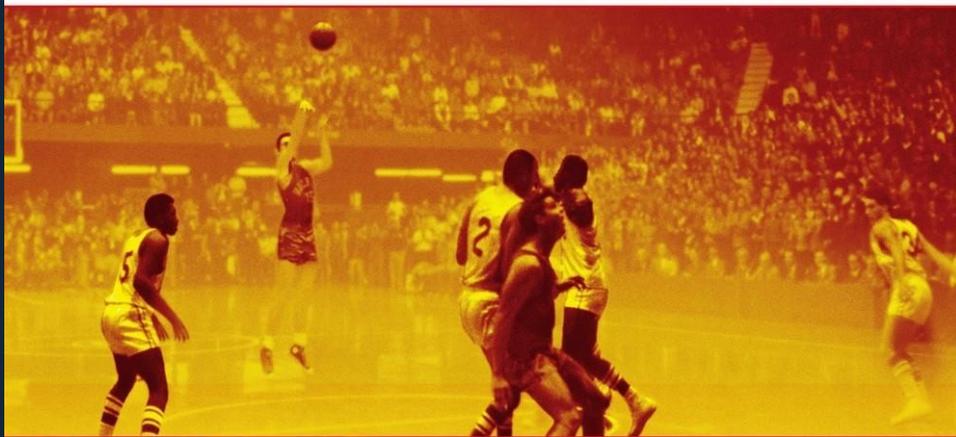
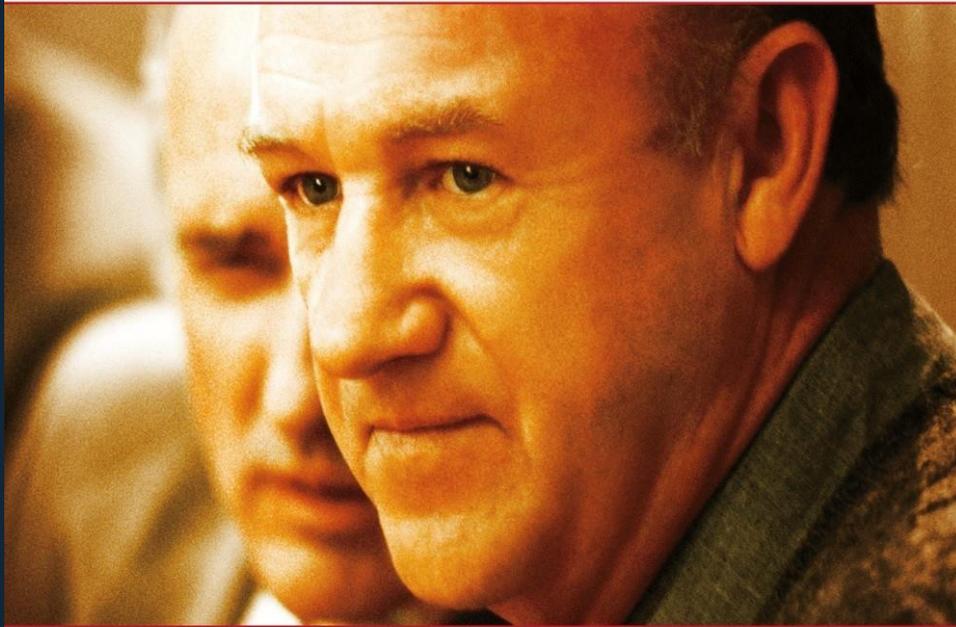
# ***CEDARVILLE CYBER***

GOCYBER COLLECTIVE MONTHLY MEETING

MAY 2025

SETH HAMMAN

# HOOSIERS





# WAR GAMES





JOHNNY LEE  
MILLER

ANGELINA  
JOLIE



# HACKERS

THEIR CRIME WAS CURIOSITY

UNITED ARTISTS PICTURES presents the IRVIN SOLTZLEY film "HACKERS" JOHNNY LEE MILLER ANGELINA JOLIE FISHER STEIGENS and LORRAINE BRACCO music by SIMON BOSWELL edited by CHRISTOPHER BLUMBERG MARTIN WALSH

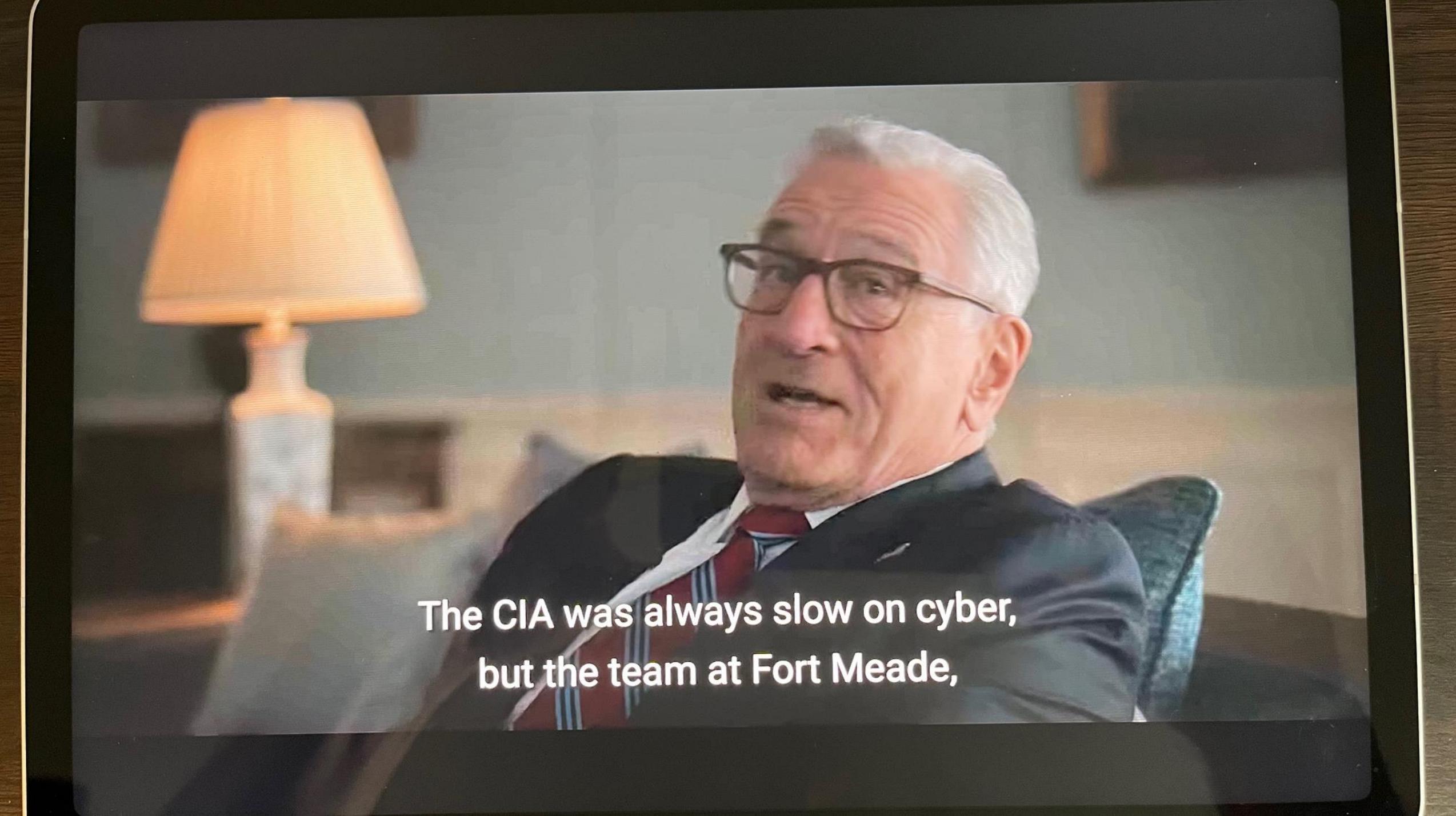
production designer JOHN BEARD director of photography ANDRZEJ SEWULA executive producer IRVIN SOLTZLEY co-producer JANEY GARAHAN written by RAFAEL MOREU

produced by MICHAEL PEYSER RALPH WINTER directed by IRVIN SOLTZLEY

© 1995 United Artists Pictures, Inc. All Rights Reserved. UA and UA PICTURES are trademarks of United Artists Pictures, Inc.

A promotional image for the movie 'Zero Day'. It features two characters, a man and a woman, sitting across from each other at a table in a dimly lit room. The man, on the left, is wearing a dark suit, a white shirt, a red and blue striped tie, and glasses. He is looking towards the woman. The woman, on the right, has dark hair and is wearing a red top. She is also looking towards the man. In the foreground, a vase of light-colored flowers is partially visible. The background shows a wooden table and chairs, suggesting a dining or meeting area. The overall atmosphere is serious and tense.

# ZERO DAY

A photograph of a man with white hair and glasses, wearing a dark suit and a red tie, sitting in a chair and speaking. He is looking slightly to the right of the camera. In the background, there is a lamp with a white shade and a wooden base, and a light-colored wall. The image has a dark border.

**The CIA was always slow on cyber,  
but the team at Fort Meade,**



especially the TAO guys—

A woman with dark, wavy hair, wearing a red blazer and a gold necklace, is shown in profile, looking towards the left. She appears to be speaking. The background is an office setting with a blurred American flag and a window with curtains. The lighting is soft and indoor.

They're still the best,

*“Kaspersky Lab’s experts can confirm they have discovered a threat actor that **surpasses anything known** in terms of complexity and sophistication of techniques, and that has been active for almost two decades – **The Equation Group**...they use tools that are very complicated and expensive to develop, in order to infect victims, retrieve data and hide activity in an **outstandingly professional way**, and utilize classic spying techniques to deliver malicious payloads to the victims.” - Kaspersky Labs*

# Head of NSA's Elite Hacking Unit: How We Hack

Chief of NSA's secretive Tailored Access Operations gives rare public talk.

By ABC News

January 28, 2016, 12:31 PM





So why are we successful?



We put the time in  
to know it better

A man with short dark hair, wearing a light blue button-down shirt, is speaking on a stage. He is holding a small black device in his left hand and gesturing with his right hand. The background is a large blue screen with a dot-matrix pattern and a faint, glowing blue outline of a person. The stage is lit with red light from below.

than the people who designed it

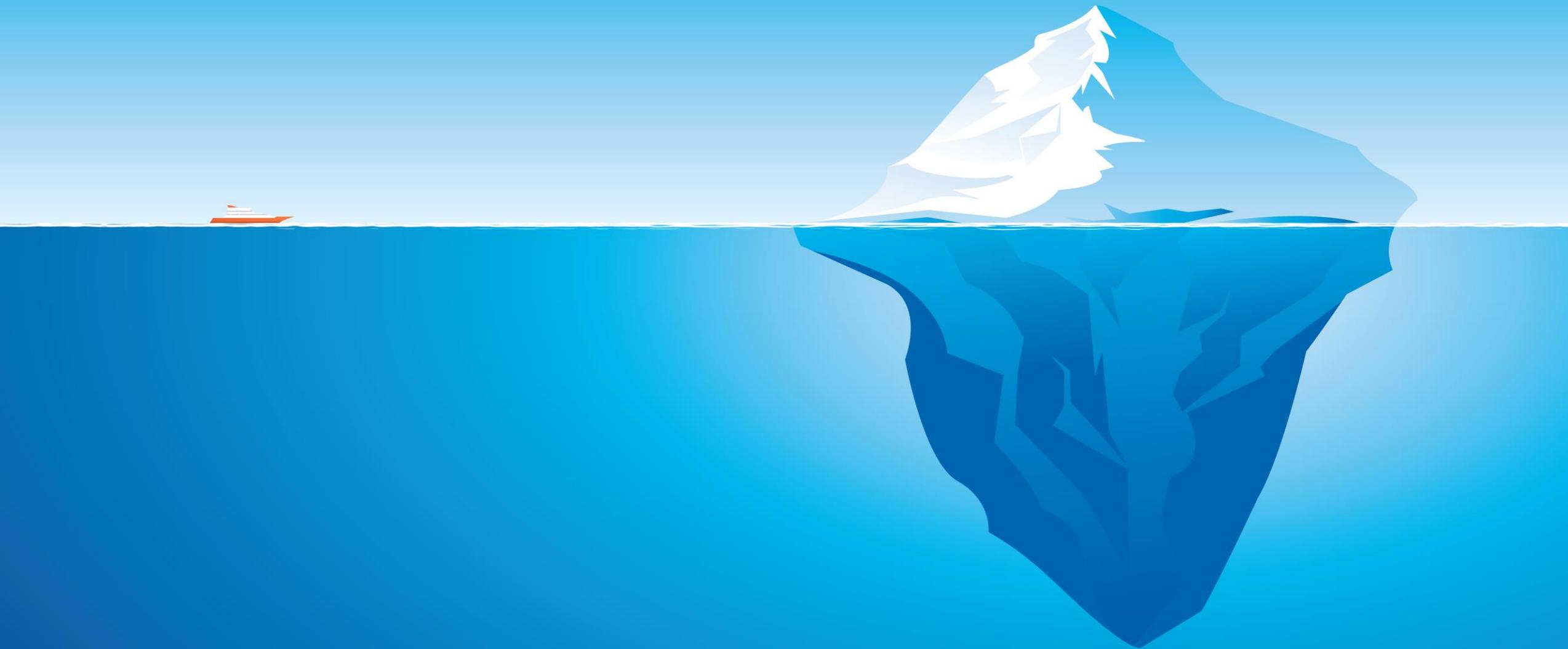


and the people  
who are securing it.



And that's the bottom line.

# DEPTH WINS



**WHERE DID THE INTERNET GO?**



# TECHNOLOGY WATERS



# TECHNOLOGY WATERS



# TECHNOLOGY WATERS







## The National Centers of Academic Excellence in Cybersecurity (NCAE-C) Program's History

In 1999, the National Security Agency (NSA) launched the Center of Academic Excellence in Information Assurance Education (CAE-IAE) program. Under this program, an institution could receive the CAE-IAE designation if it passed rigorous curriculum and program requirements.

By May 1999, seven schools became designated as a CAE-IAE, and soon, many more institutions joined the ranks of CAE-IAE designated institutions. While the CAE-IAE program initially formed to address the shortage of intelligence community professionals, the program later expanded to address the lack of qualified cybersecurity professionals in the workforce.

In 2004, the Department of Homeland Security (DHS) became a co-sponsor of the CAE-IAE program.

In 2008, the program added a cyber research designation (CAE-R).

In 2017, the CAE-IAE designation name was changed to the CAE in Cyber Defense Education (CAE-CDE).

In 2019, a designation for two-year colleges (CAE-2Y) was added.

In 2020, the CAE-2Y designation was merged with the CAE-CDE designation and changed to the CAE in Cyber Defense (CAE-CD) designation.

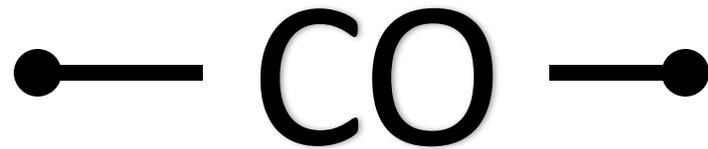
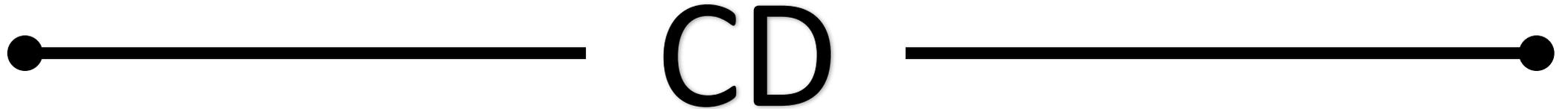
**Today, the NCAE-C program has over 400 institutions all over the Nation with designations in Cyber Defense (CAE-CD), Cyber Research (CAE-R), and Cyber Operations (CAE-CO).**

# CYBERSECURITY



TECHNICAL

NON TECHNICAL



# Cyber Operations Student Outcomes

Graduates of cyber operation programs will be able to:

1. Operate ethically at all times, respect the rights of all citizens, and obey all applicable laws and authorities.
2. Apply logical and algorithmic thinking to navigate and produce effects in cyberspace.
3. Detail the architecture and functions of operating systems and computer networks.
4. Develop systems software using assembly and low-level languages.
5. Describe the motivations, methods, and goals of cyber threat actors.
6. Protect the confidentiality and integrity of data at rest and in transit.
7. Perform static and dynamic analysis of software to identify vulnerabilities.
8. Reverse engineer software and network protocols.
9. Secure data, computer systems, and networks from cyber attacks.
10. Plan and execute offensive cyber operations in contested environments.

# Knowledge Units List

## Mandatory

M1: Cyber Policy, Law, and Ethics

M2: Computer Science Foundations

M3: Operating Systems

M4: Computer Networks

M5: Systems Programming

M6: Cybersecurity Foundations

M7: Applied Cryptography

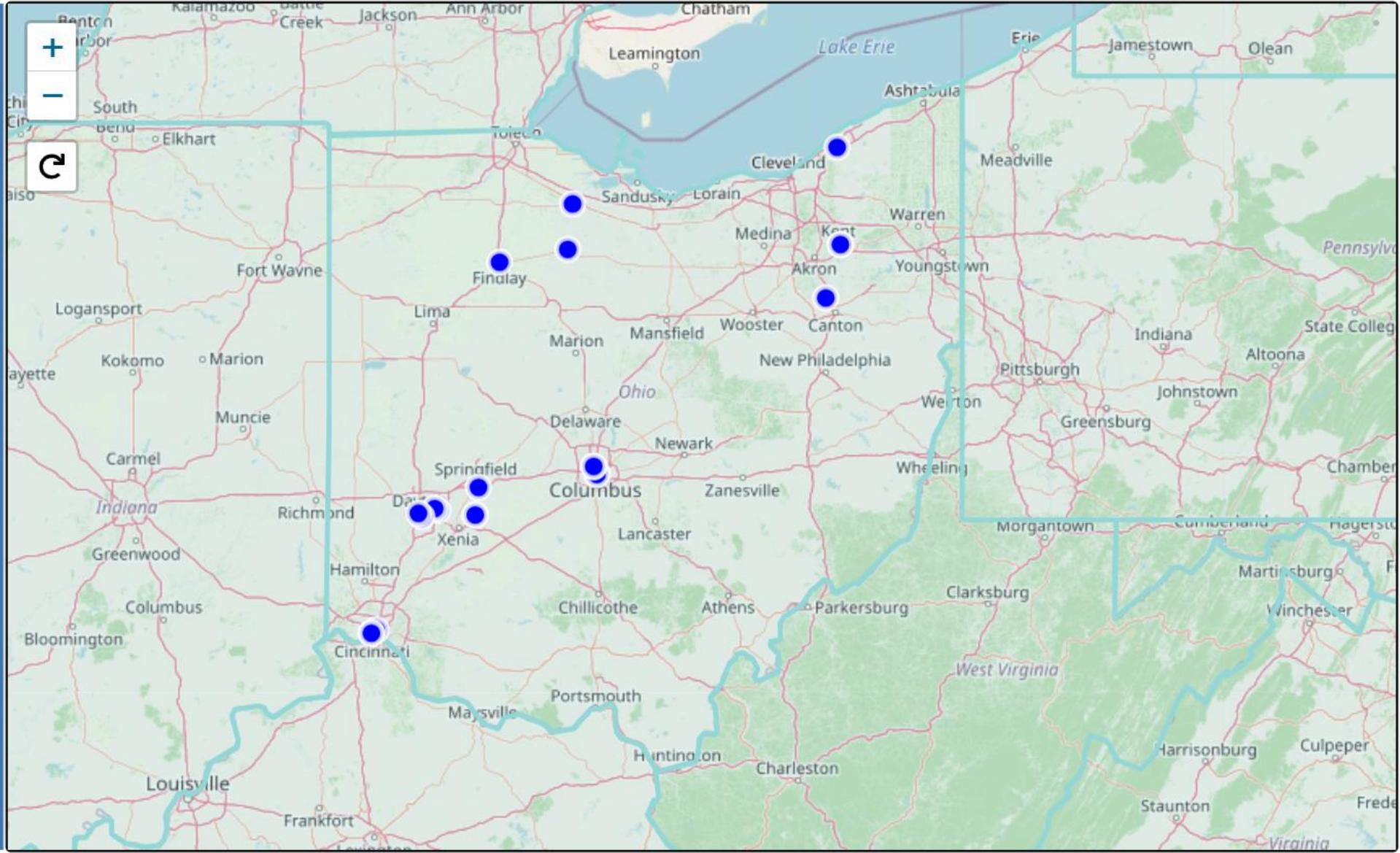
M8: Software Reverse Engineering

M9: Defensive Cyber Operations

M10: Offensive Cyber Operations

# CAE PROGRAMS IN OHIO

Use the filters below to find institutions that match your needs.

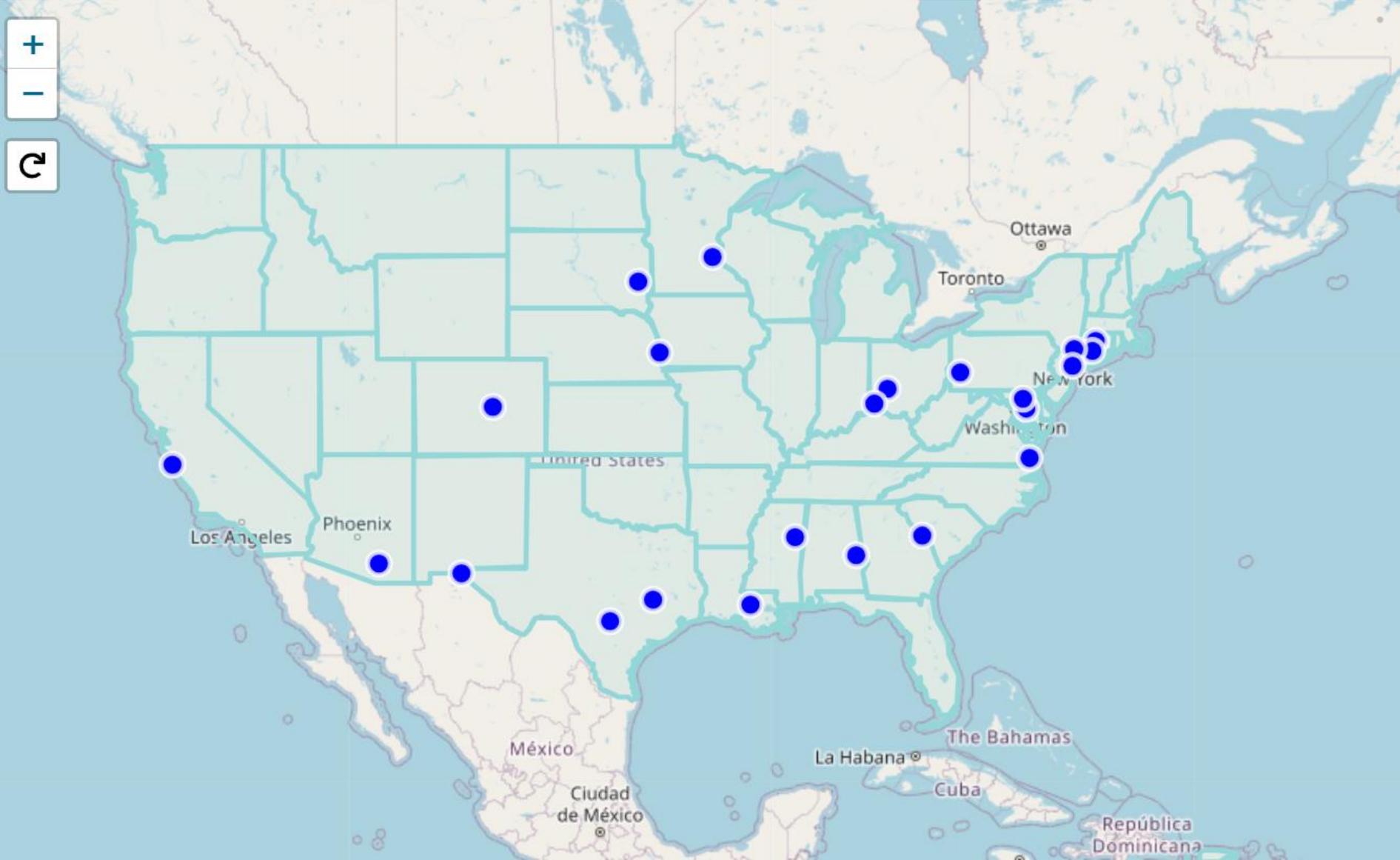
 GenCyber Host ⓘ Scholarship for Service ⓘ Cyber Service Academy ⓘ

# CAE PROGRAMS IN OHIO

|   |  |  |  |
|---|--|--|--|
| <p>+ Air Force Institute of Technology   </p>  | <ul style="list-style-type: none"> <li>• CAE-R 2009 - 2024</li> </ul>  | <p>+ Cedarville University     </p> | <ul style="list-style-type: none"> <li>• CAE-CD 2021 - 2026</li> <li>• CAE-CO 2018 - 2029</li> </ul> |
| <p>+ Stark State   </p>  | <ul style="list-style-type: none"> <li>• CAE-CD 2023 - 2028</li> </ul> | <p>+ The Ohio State University  </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2024 - 2029</li> <li>• CAE-R 2025 - 2030</li> </ul>  |
| <p>+ Tiffin University   </p>  | <ul style="list-style-type: none"> <li>• CAE-CD 2020 - 2025</li> </ul> | <p>+ Franklin University   </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2019 - 2029</li> </ul>                               |
| <p>+ University of Dayton  </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2022 - 2027</li> </ul> | <p>+ University of Findlay   </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2022 - 2027</li> </ul>                               |
| <p>+ Sinclair Community College   </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2012 - 2027</li> </ul> | <p>+ Clark State College   </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2017 - 2028</li> </ul>                               |
| <p>+ Xavier University   </p>  | <ul style="list-style-type: none"> <li>• CAE-CD 2022 - 2027</li> </ul> | <p>+ Terra State Community College   </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2017 - 2028</li> </ul>                               |
| <p>+ Lakeland Community College  </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2022 - 2027</li> </ul> | <p>+ Kent State University   </p>   | <ul style="list-style-type: none"> <li>• CAE-CD 2022 - 2027</li> <li>• CAE-R 2023 - 2028</li> </ul>  |
| <p>+ Columbus State Community College    </p> | <ul style="list-style-type: none"> <li>• CAE-CD 2019 - 2029</li> </ul> | <p>+ University of Cincinnati   </p>  | <ul style="list-style-type: none"> <li>• CAE-CD 2016 - 2028</li> <li>• CAE-CO 2014 - 2024</li> </ul> |
| <p>+ Wright State University  </p>  | <ul style="list-style-type: none"> <li>• CAE-CD 2020 - 2025</li> </ul> |  |  |

# CAE-CO PROGRAMS

Use the filters below to find institutions that match your needs.

 GenCyber Host ⓘ Scholarship for Service ⓘ Cyber Service Academy ⓘ

# Regional

## Programming Centers



### Together, We Are The OCRI!

OCRI Regional Programming Centers (OCRI-RPCs) are part of the overall OCRI ecosystem. These organizations partner in the development, facilitation, support, or delivery of programming activities directly related to the education, workforce, and economic development missions of the Ohio Cyber Range Institute.

OCRI-RPCs offer programming competency across OCRI's missions, based on their expertise, committed capacity, and interests. The array of competencies varies across OCRI-RPCs, with some more comprehensive in nature, while others may focus on a specific area of cybersecurity tied to only one or two of the Cyber Range's missions or focus on dissemination activities powered by the OCRI. To date, 19 RPCs have been designated, comprised of 25 institutions. Learn more about the programs, activities, and projects by clicking on the organizational logo.

*"If I were giving a young man advice as to how he might succeed in life, I would say to him, pick out a good father and mother, and begin life in Ohio." - Wilbur Wright*







• Cleveland

★ Columbus

WPAFB



Cedarville

• Cincinnati



# ABOUT CEDARVILLE

- Founded 1887
- NCAA Division II athletics
- 153 academic programs
- Teaching college
- Focus on traditional undergrad experience



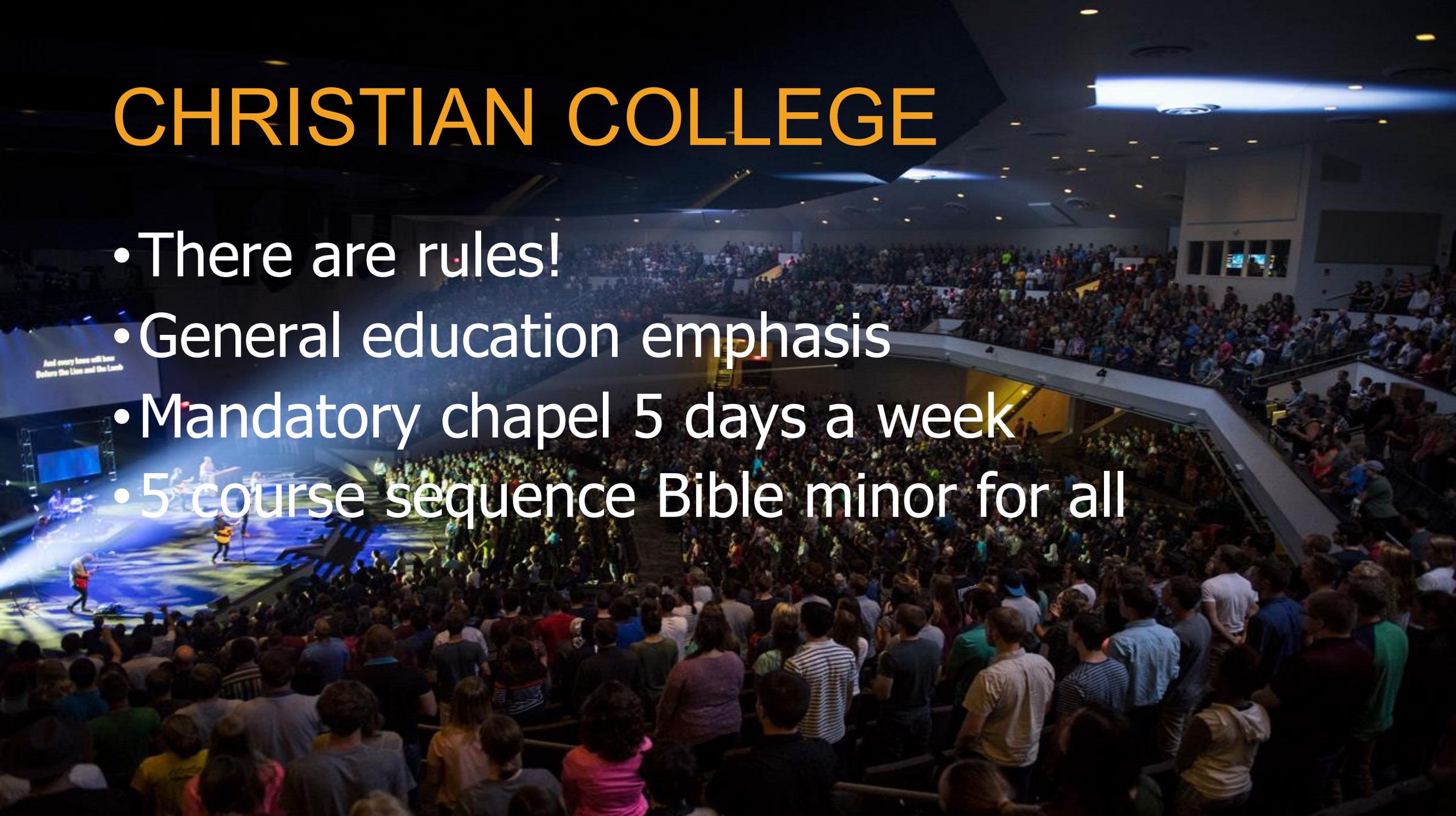
# DEMOGRAPHICS

- 6,400 / 4,000 (total / traditional undergrads)
- 85% housed on campus
- 58% from out of state
- 2% international students
- 28% home schooled
- 250 full-time faculty



Smokey this is not Nam this is bowling  
There Are Rules

# CHRISTIAN COLLEGE



- There are rules!
- General education emphasis
- Mandatory chapel 5 days a week
- 5 course sequence Bible minor for all



**Cedarville Senior Recognized for NSA Codebreaker Achievement**



**Bridging the Gap: New Cyber Endeavor Cultivates Leaders**



**GenCyber Camp Returns to Cedarville**



**Cedarville University's Key Player in Cyber Operations**



**Cedarville's Cyber Team Dominates National Contests**



**Cedarville University Among Top Three Evangelical Universities in WSJ National College Rankings**



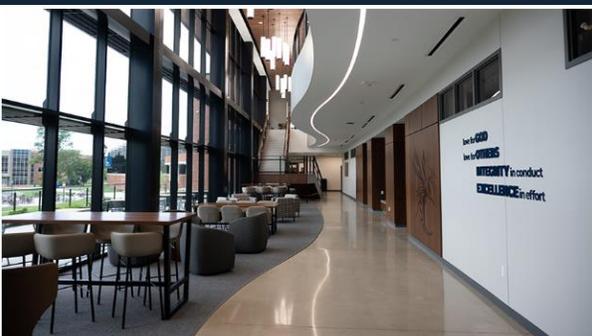
**Cedarville Pioneering Cyber Operations Program Earns NSA Distinction**



**A Leader in Cyber Security Programs**



**Cedarville-Air Force Materiel Command Partnership Benefits Students Region**



**New Scharnberg Business and Communication Center Open**



**NSA Partnership Expands Cedarville Opportunities**



**National Excellence in Cybersecurity**

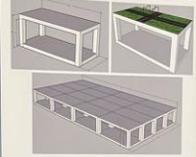


**CRITICAL INFRASTRUCTURE HACKING**

| Sector                  | Feature        | Action                       | Physical Component |
|-------------------------|----------------|------------------------------|--------------------|
| Chemical                | Gas Pipeline   | Control gas flow light strip | LED Strip          |
| Commercial Facilities   | Ferries Wheel  | Stop/start at will           | Motor              |
| Communications          | Satellite      | Access camera live feed      | Camera             |
| Critical Manufacturing  | Factory        | Alter conveyor belt function | Motor              |
| Dams                    | Lock & Dam     | Open lock releasing water    | Motor              |
| Defense Industrial Base | Laser          | Toggle laser beam            | Laser              |
| Emergency Services      | Fire Station   | Play audio over siren        | Audio              |
| Energy                  | Substation     | Toggle city streetlamps      | Lights             |
| Financial Services      | Bank           | Vandalize digital billboard  | LED                |
| Food and Agriculture    | Restaurant     | Turn power off               | LED Display        |
| Government Services     | Airport        | Halt radar spinning          | Rotate             |
| Healthcare              | Hospital       | Adjust HVAC operation        | Fan                |
| Information Technology  | Data Center    | Alter temperature            | LED                |
| Nuclear Sector          | Nuclear Plant  | Toggle smoke                 | Fog                |
| Transportation Systems  | Traffic Lights | Toggle lights                | Light              |
| Water                   | Water Plant    | Toggle clarifier arms        | Spins              |

**ABSTRACT**  
Cyber operations create effects in physical space as well as cyberspace, but most cybersecurity education exercises are confined to cyberspace. Jericho helps drive home the real impact of cyber operations and cyber-insecurity by incorporating physical space effects into cyber operations education. Jericho is a physical table-top cyber city that incorporates critical infrastructure elements. It blends a traditional cyber range experience with a physical range. Existing cyber physical ranges are rare and prohibitively expensive. Jericho is a model for how ranges can be constructed inexpensively. It is constructed using an extensible crate model using off-the-shelf electromechanical components like motors, speakers, and LEDs wired to a microprocessor such as Raspberry Pi Zeros. It models how missions can be created on the range by placing students in the role of cyber operators charged with the attack or defense of critical infrastructure. Students gain access to the cyber city's network over a VPN and begin their mission in a sandboxed virtual machine environment similar to many cyber education exercises. In one mission, students find and exploit vulnerabilities as they pivot through a mock city's cyberspace infrastructure with the goal of commandeering the city's traffic lights. The mission is accomplished when the physical traffic lights in the miniature city change at the will of the students.

**MODULAR & EXTENSIBLE CRATES**



Size: 18"x24"x20" and < 10 lbs.  
Setup: Plug-in, connect to internet, and start.  
Portability: Stand-alone exercises on each crate.  
Modular: Use crates in combination or separately.  
Cost: <\$150/crate  
Microprocessor: Raspberry Pi Zero  
Structures: 3D Printed & Off-the-Shelf

**ORIGIN OF JERICO**

The biblical Jericho symbolized a seemingly impenetrable stronghold until it was overcome through faith and strategy. It reminds us that no system is invincible, and with the right approach, even the strongest defenses can be breached.

**CYBER SCENARIOS**

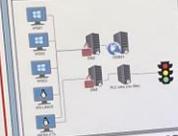
Students receive an intelligence report before starting a scenario.

**(S) OPERATION MOLASSES MAZE (OMM)**

*(Detailed text describing the Operation Molasses Maze scenario, including objectives and instructions.)*

**CYBER RANGE**

Each scenario possesses its own virtual network which students access via a VPN connection.



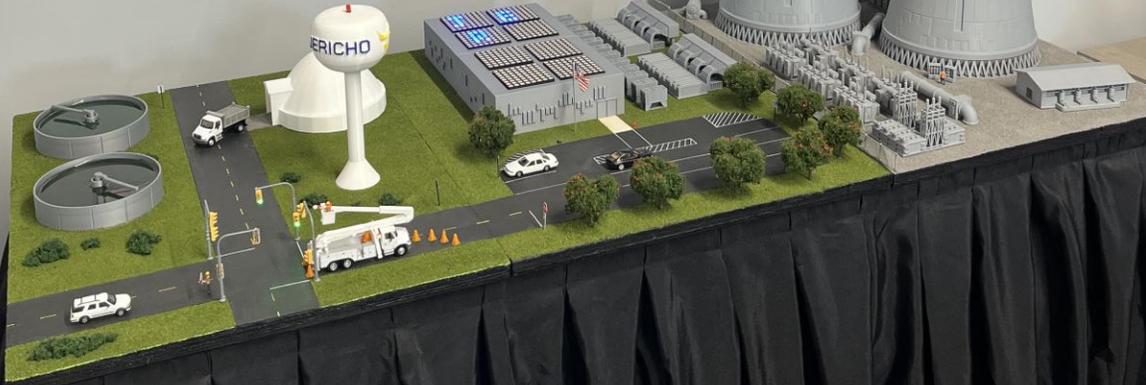
PROXMOX HYPERVISOR  
Lenovo BLADE SERVER

Some networks are sophisticated while others are quite simple.

**THREE CRATES ASSEMBLED**



**DEVELOPING  
CYBER  
LEADERS**







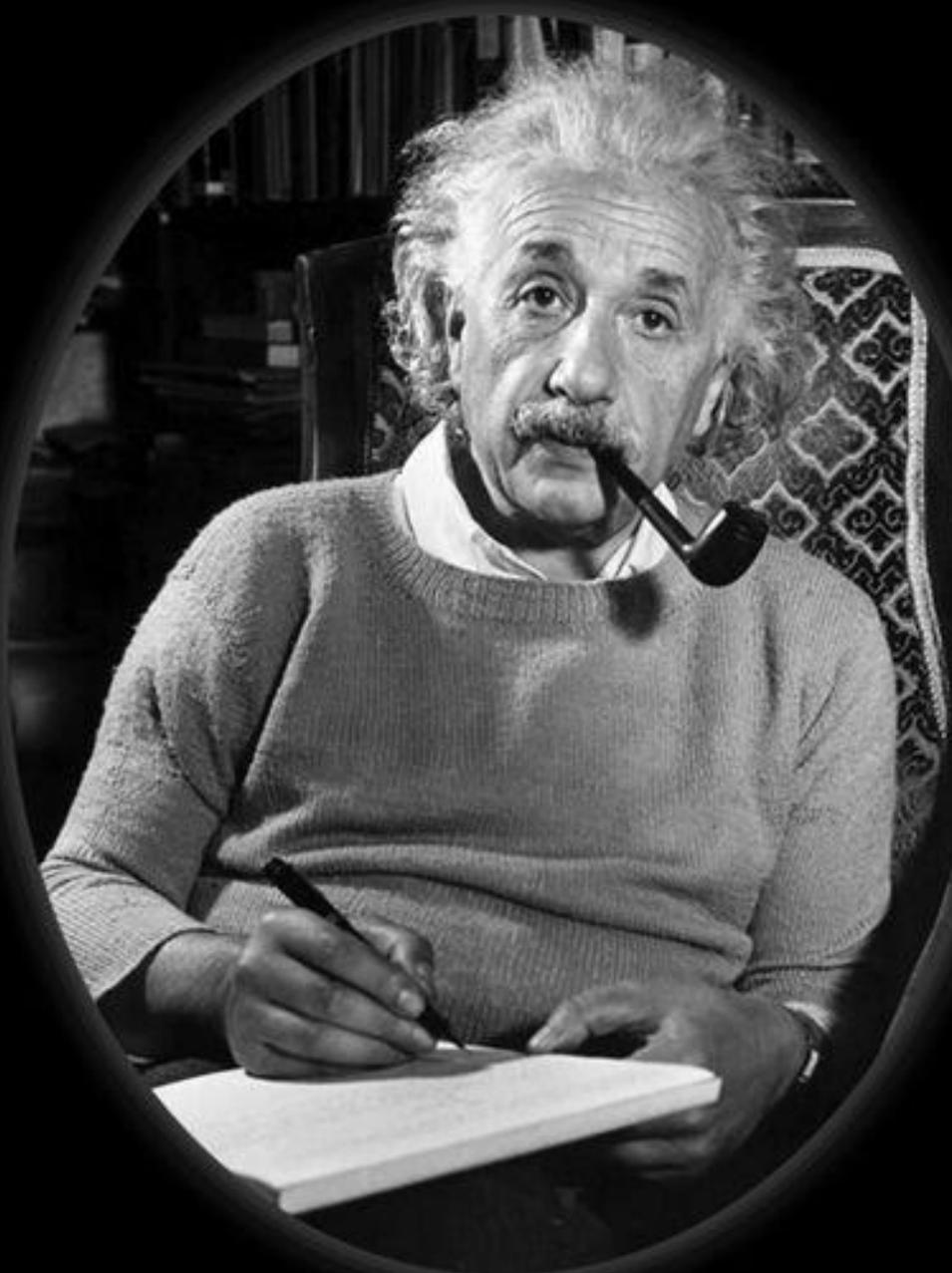
CYBERSECURITY **DIVE**

# Former NSA cyber director warns drastic job cuts threaten national security

Rob Joyce told lawmakers mass layoffs of federal workers will hurt the ability of the U.S. to combat malicious cyber activity from China and other adversaries.

Published March 10, 2025





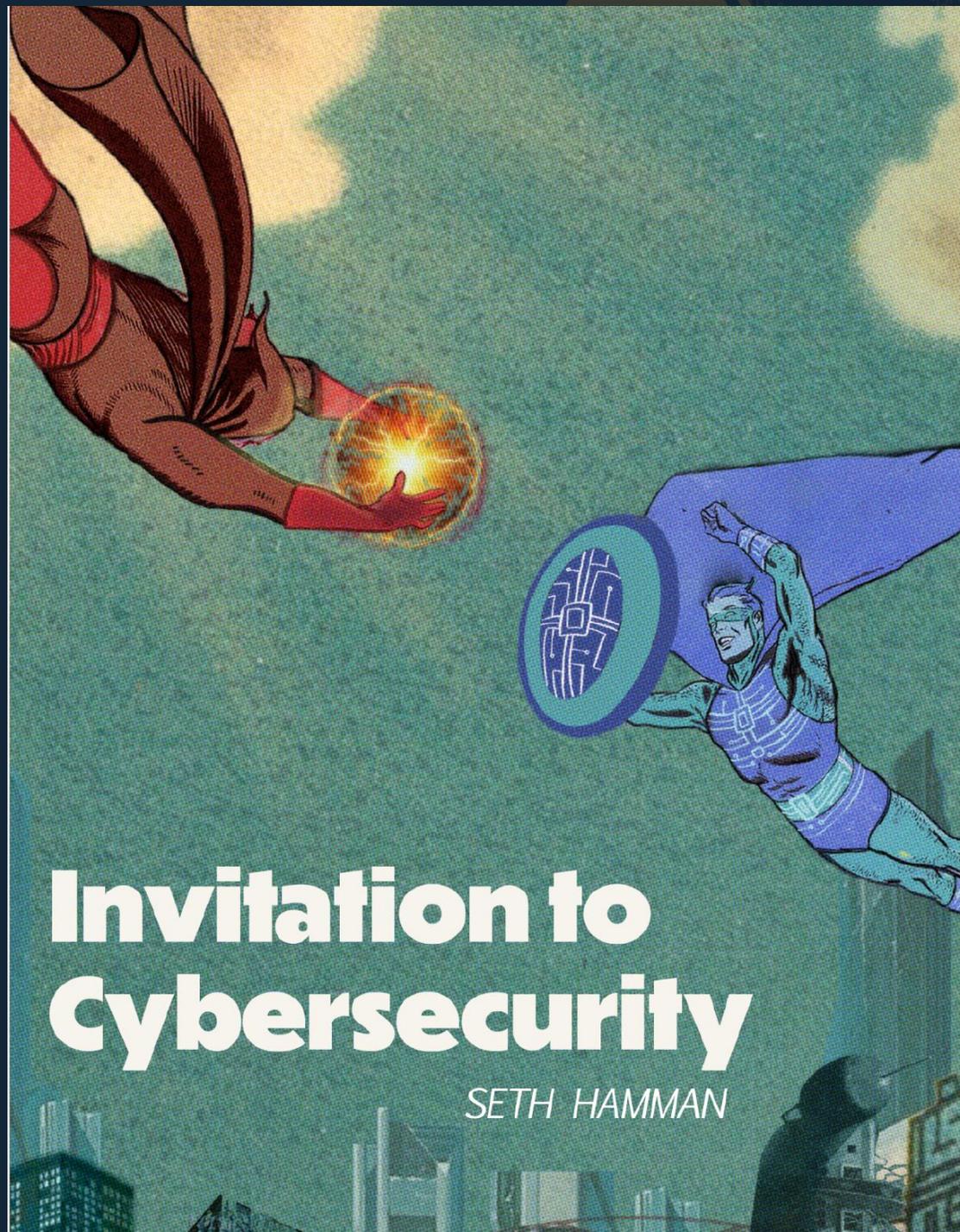
Education is  
what remains  
after one has  
forgotten  
what one  
has learned  
in school.

*~Albert Einstein*

| Training focuses on... | Education focuses on... |
|------------------------|-------------------------|
| Content                | Context                 |
| Concrete details       | Abstract ideas          |
| Technologies           | Principles              |
| Practical              | Theoretical             |
| How                    | Why                     |
| Competency             | Understanding           |
| Applying               | Evaluating              |
| Answering questions    | Asking questions        |



**COMING  
SOON**



# Invitation to Cybersecurity

SETH HAMMAN



***THANK YOU!***

# CONNECTION OPPORTUNITIES

Are you interested in partnering with us to develop tomorrow's cyber leaders in the classroom while advancing cybersecurity in our nation? If so, here's how:

- Support our Cyber Teams as they compete in cyber exercises around the U.S.
- Share your industry insights with us via a speaking engagement.
- Sponsor an engineering senior design project.
- Tour Cedarville's cyber facilities to better understand our mission.
- Invest financially to create enhanced learning opportunities for our students.

Contact us via email [cybercenter@cedarville.edu](mailto:cybercenter@cedarville.edu) or Instagram [@cucybercenter](https://www.instagram.com/cucybercenter).

## More information

- Cyber Center website: [cedarville.edu/cybercenter](https://cedarville.edu/cybercenter).
- Cyber Operations Major website: [cedarville.edu/cyberops](https://cedarville.edu/cyberops).
- Cyber Team website: [cyber.cedarville.edu](https://cyber.cedarville.edu).

## Partners



The background features a complex geometric design. On the left side, there are overlapping, semi-transparent shapes in various shades of green and a dark blue-grey. These shapes create a layered, abstract effect. The right side of the image is a solid, vibrant green. Centered on this green background is a white right-pointing triangle followed by the text 'May Threat Briefing' in a clean, sans-serif font.

▶ May Threat Briefing

# May Threat Briefing

- Lazarus Group (APT38)  
Tsunami Malware Campaign
- TheWizards  
Ipv6 Adversary-in-the-Middle  
(AiTM) Attacks
- Volt Typhoon  
Supply Chain and Critical  
Infrastructure Attacks



# June Speaker

## Eric Fisher – Mad River Local Schools

- District Technical Coordinator
- 2019 Cyberattack that Shut Down the School District
- The Cost: Education, Trust, Physical
- Lessons Learned: Action Steps and Prevention



## Information

Email me at [john@GoCyberCollective.org](mailto:john@GoCyberCollective.org).

If you have a suggestion on meeting topics, special interest groups, breakfast menu, or anything else we want to hear from you.

You can register for future breakfast meetings from the website.

□ [GoCyberCollective.org](http://GoCyberCollective.org)

# Event Sponsors



**SECURECYBER™**

Proven. Proactive. Personalized.

**FORTINET®**