

2024

# Cybersecurity Curriculum Task Force

<https://cyberedtaskforce.org>



**CAE**  
IN CYBERSECURITY  
COMMUNITY

## NCAE-C Curriculum Task Force

- ⦿ Towson University - Sidd Kaza, Blair Taylor
- ⦿ Portland Community College - Cara Tang
- ⦿ United States Naval Academy - John Doherty
- ⦿ Cedarville University - Seth Hamman
- ⦿ Coastline Community College - Tobi West
- ⦿ Metropolitan State University - Faisal Kaleem
- ⦿ University of New Haven - Tirthankar Ghosh

<https://cyberedtaskforce.org>



## NCAE-C Curriculum Task Force

### Mission

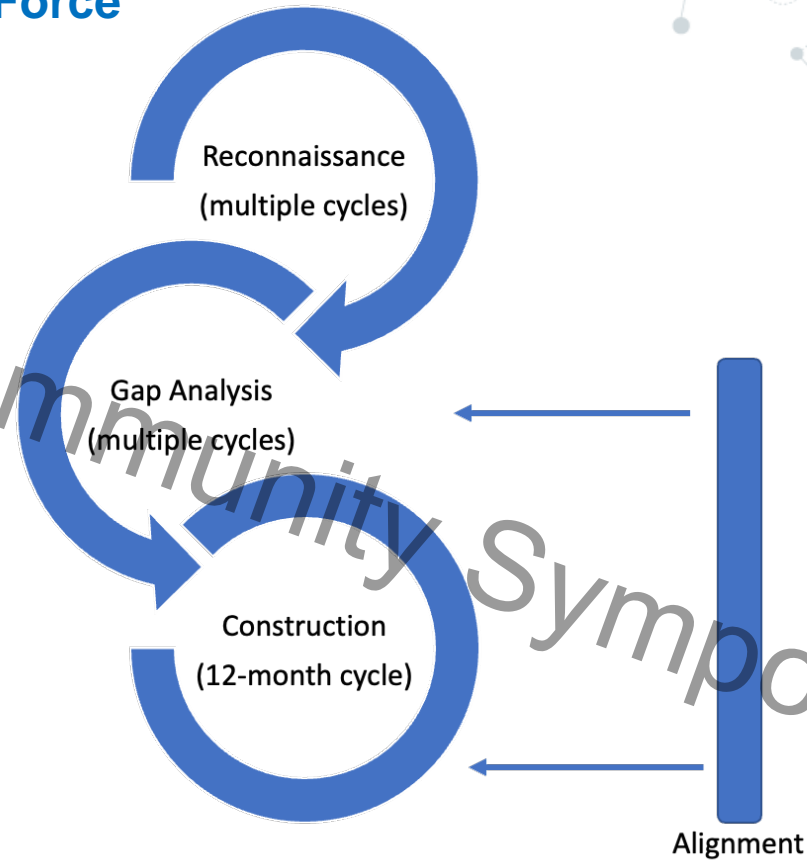
Catalog and create high-quality and relevant curricula on emerging cyber topics, mapping to curricular and workforce guidelines, and make them freely available.

<https://cyberedtaskforce.org>



# NCAE-C Curriculum Task Force

2024 CAE  
Organization



<https://cyberedtaskforce.org>

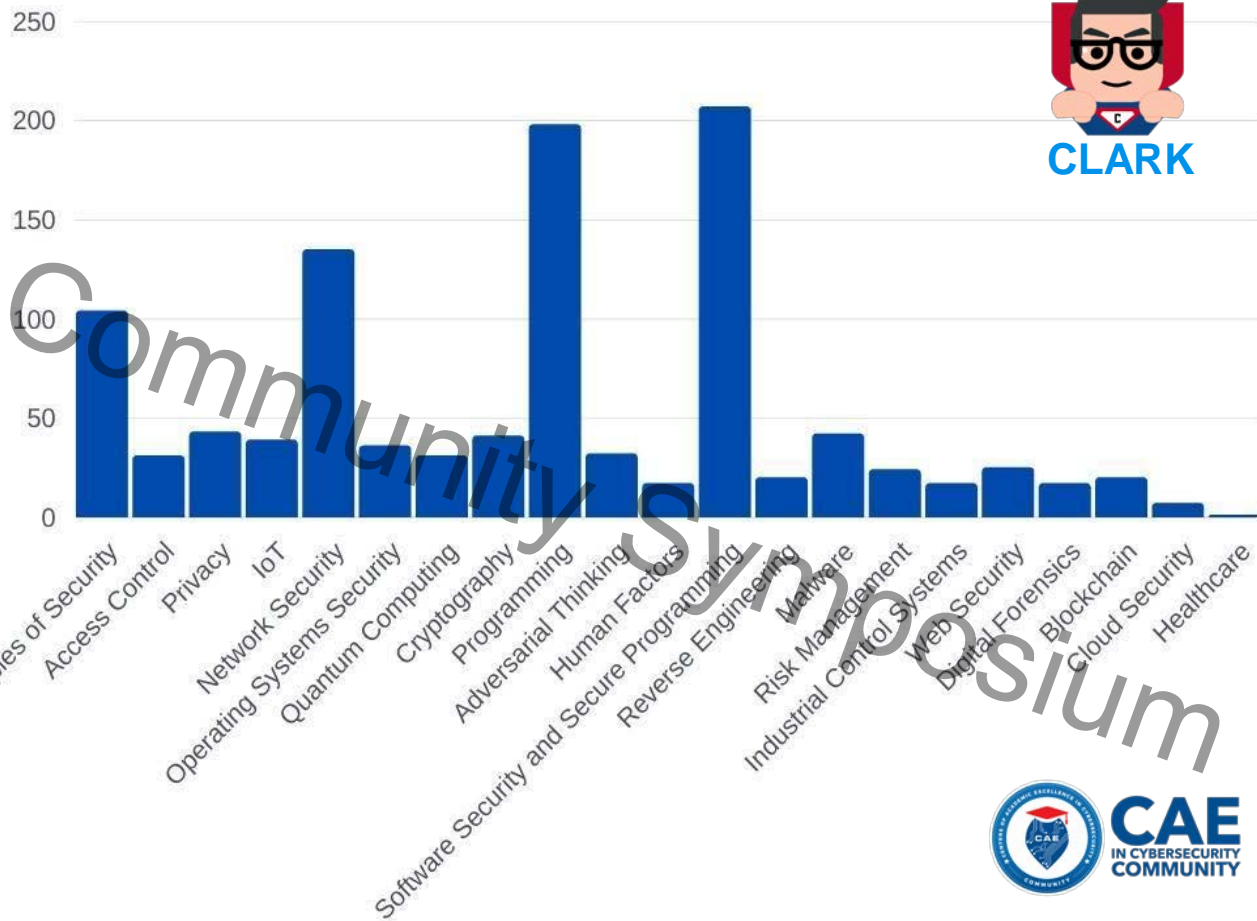


# Reconnaissance

2024 CAE

- 1,098 learning objects
- 25 topics
- 3000+ resources

Future plans: Look outside the community



# Gap Analysis



- Industry focus groups
- Survey to identify top knowledge & skills in each area
  - Quantum resistant cryptography
  - Autonomous / self-driving vehicle security
  - Zero trust
  - Software supply chain security
  - Ransomware

# Construction

2024 CAE Community Symposium

- Several rounds of proposals funded
- Most with a 1-year timeline.
- Mid-term check.
- Technical and editorial review.
- Available on CLARK



# Construction Topics



- Zero trust security
- Ransomware
- Quantum Resistant Cryptography
- Software Supply Chain Security
- AI and LLMs for Cybersecurity
- Security for AI
- Autonomous and Connected Vehicles
- DevSecOps and Secure Software development
- Autonomous Vehicle Security
- Medical Device Security
- Ransomware: Prevention, Detection, and Recovery



# Institutions Funded (over 600K awarded)

2024



# Zero Trust Security

Last Updated 9/5/23


Course ☆☆☆☆☆

Parent of [Zero Trust Architecture in Government Networks](#). [+ 9 more](#)

## Description

This course will explore the concepts of zero trust architecture. Students will learn the underlying concepts of zero trust. Students will learn how to plan and implement a zero trust architecture that meets regulatory requirements.

## Learning Outcomes

 **Define zero trust principles**  
No Mappings


0  
Mapped Outcomes

 **Configure a zero trust architecture**  
No Mappings

0  
Mapped Outcomes

 **Manage a zero trust architecture**  
No Mappings

0  
Mapped Outcomes

 **Analyze the different aspects of zero trust**  
No Mappings

0  
Mapped Outcomes

No revisions have been made since last release.

 Review Pending

DOWNLOAD NOW

DOWNLOAD 

MAP AND TAG

EDIT SUBMISSION

 0 saves  8 downloads

Attribute this Object

"Zero Trust Security" by Chris Simpson, James Jáurez, Nancy Jones, Debra Bowen, Bill Reid, and Randy Velliquette, NSA NCAE-C Initiative is licensed under [CC BY-NC-SA 4.0](#).

Share



Authors

# Zero Trust Security

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No Mappings

0  
Mapped Outcomes

0  
Mapped Outcomes

0  
Mapped Outcomes




0  
Mapped Outcomes

## Academic Levels



## Hierarchy

### Children

- **Zero Trust Architecture in Government Networks.**  
**MODULE** 4-10 HOURS  
Randy Velliquette at National University and 5 more  
Updated Aug 30, 2023  
This module explores the use of ...
- **Security Operations to Support a Zero-Trust A...**  
**MODULE** 4-10 HOURS  
James Jaurez at CYB Team and 5 more  
Updated Jun 30, 2023  
This module explores the condu...
- **Deploying Zero Trust in the Cloud**  
**MODULE** 4-10 HOURS  
James Jaurez at CYB Team and 5 more  
Updated Sep 1, 2023  
The module explores the deploy...
- **Regulatory Requirements for Zero Trust Architectures**  
**MODULE** 4-10 HOURS  
Chris Simpson at National University and 5 more  
Updated Sep 4, 2023  
This module explores the regulat...
- Threats to Zero Trust

# Construction



2024 CAE Community Symposium



SEED LABS



MAX POWER



# 2024 CAE Community Symposium



**CLARK**

<https://clark.center>



**NCYTE CENTER**



**CyberSkills2Work**



**CAE IN CYBERSECURITY COMMUNITY**

**GULATECH ADVENTURES**



**NICE Challenge PROJECT**

**TU TOWSON UNIVERSITY.**





# 2024 CAE Community Symposium

## Cybersecurity Labs and Resource Knowledge-base



**Bloom's  
Based  
Outcomes**



**Modularized  
Content**



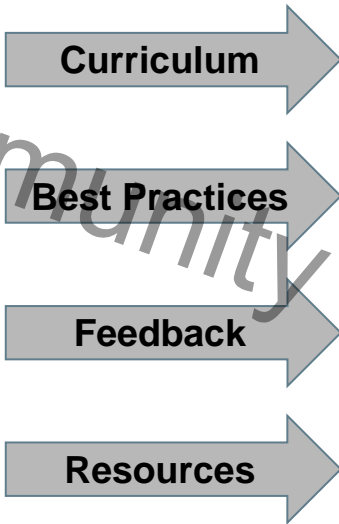
**Search and  
Filter  
Browsing**



**Compressed  
Downloads**



# Content Intake



2024

# What's available on CLARK?

CAE Community Symposium



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FILTERS

[Clear all filters](#)

Collection

Length

- Nanomodule
- Micromodule
- Module
- Unit
- Course

Topic

- AI/Machine Learning
- Access Control
- Adversarial Thinking
- Blockchain
- Cloud Security
- Cryptography
- Cyber Law and Policy
- Cyber Physical Systems
- Digital Forensics
- Ethics
- Healthcare
- Human Factors
- IoT
- Malware
- Network Security
- Operating Systems Security
- Principles of Security
- Privacy
- Programming
- Quantum Computing
- Ransomware
- Reverse Engineering
- Risk Management
- Software Security and Secure Programming
- Software Supply Chain
- Web Security
- Zero Trust

Type of Material

Level

RESULTS (1557)

[Clear Search](#)

[Search with CARD](#)

Sort By: Newest



### Hardware security and trust

**NANOMODULE** ⌚ UP TO ONE HOUR

Gang Qu at Univ. of Maryland  
Updated Mar 11, 2024

NSA Funded Curriculum

This nanomodule describes the roles of computer hardware in security and trust. The key message we wa...



### Physical attacks to hardware and countermeasures

**MICROMODULE** ⌚ 1 - 4 HOURS

Gang Qu at Univ. of Maryland  
Updated Mar 11, 2024

NSA Funded Curriculum

In this micromodule, we study various ways of physical attacks to hardware and chips. Through such stud...



### Anomaly and Novelty Detection

**MODULE** ⌚ 4 - 10 HOURS

Edoardo Serra at Boise State University  
Updated Mar 8, 2024

NSA NCAE-C Initiative

This module offers a comprehensive foundation in the field of anomaly and novelty detection. It delves in...



### Introduction to combinational digital logic design

**MICROMODULE** ⌚ 1 - 4 HOURS

Gang Qu at Univ. of Maryland  
Updated Mar 8, 2024

NSA Funded Curriculum

This micromodule gives a review of the fundamentals of digital systems and the design of combinational ...



### Challenge 3

**MODULE** ⌚ 4 - 10 HOURS

Bilge Karabacak at University of North Carolina, Wilmington and 2 more  
Updated Mar 4, 2024

NSA NCAE-C Initiative

In this challenge, students will develop a ransomware variant with an improved persistence capability.



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## FILTERS

[Clear all filters](#)

## Collection ▾

## Length ▾

## Topic ▾

- Access Control
- Adversarial Thinking
- Blockchain
- Cloud Security
- Cryptography
- Cyber Law And Policy
- Digital Forensics
- Healthcare
- Human Factors
- Industrial Control Systems
- IoT
- Malware
- Network Security
- Operating Systems Security
- Principles Of Security
- Privacy
- Programming
- Quantum Computing
- Ransomware
- Reverse Engineering
- Risk Management
- Software Security And Secure Programming
- Software Supply Chain
- Web Security
- Zero Trust

## Type of Material ▾


## Level ▾

## Guidelines ▾

RESULTS (1326)

[Clear Search](#)


Sort By: Newest ▾

- 

**Contingency Strategies for IR, DR, BC**

**MODULE** ⌚ 4 - 10 HOURS


Stephen Miller at Eastern New Mexico University-Ruidoso  
Updated Aug 18, 2023

This lesson provides an introduction to the process of planning for business resumption following an inci...
- 

**Cybersecurity Education for Critical Infrastructure...**

**MICROMODULE** ⌚ 1 - 4 HOURS


Dipankar Dasgupta at The University Of Memphis and 1 more  
Updated Aug 18, 2023

Course name: CECIP: Zero Trust Model Prerequisites: This course is designed for undergraduate and grad...
- 

**Graph-based Cyber Risk Quantification**

**MODULE** ⌚ 4 - 10 HOURS


Unal Tatar at University at Albany - Suny and 1 more  
Updated Aug 18, 2023

The purpose of this module is to propose a method for quantifying the impact propagation of cyber risk e...
- 

**Functional Dependency Network Analysis for Cy...**

**MICROMODULE** ⌚ 1 - 4 HOURS

Unal Tatar at University at Albany - Suny and 1 more  
Updated Aug 18, 2023

This micromodule provides a method for impact propagation analysis for cyber risk events, Functional D...
- 

**Buffer Overflow - CS0 - C++**

**NANOMODULE** ⌚ UP TO ONE HOUR

Part of the NSA NCAE-C Initiative collection

# Module 1 - Introduction to Networks

Last Updated 1/24/23

Module 

 [Child of CyberSkills2Work - Intro to Networks \(DSU-0012\)](#) ;

## Description

This module covers the introduction to network fundamentals. Each module will consist (typically) of a set of PowerPoint slides and assessment questions pertaining to the module topic.

<https://clark.center/details/cmwelu/cf9aae74-be9d-43ff-8981-a66efe685bbe>



NATIONAL  
CYBERSECURITY  
WORKFORCE  
DEVELOPMENT  
PROGRAM



Part of the NSA NCAE-C Initiative collection

# Course Professionalism & Soft Skills Development

Last Updated 2/14/24

Course 

## Description

Ethics in cyber is a hugely important step, but it isn't the entire solution to developing a trusted and competent workforce. Professionalism is also critically important and much of the higher education community can improve how they prepare students for careers in the government and industry. Students need to be prepared to join the workforce with the skills required to present a professional image, including how to present themselves to senior leadership, communicate ideas effectively and succinctly and engage with multiple stakeholders from various backgrounds that hold various opinions of proper office standards. What might be acceptable at an IT company in Silicon Valley might be wholly inadequate for work in the NSA regarding dress, behavior, etc. This curriculum is designed to develop professionalism as part of preparing to enter the cybersecurity workforce.

<https://clark.center/details/greg.sayadian/0dee5cda-5839-4b8c-9da0-345c7148c1d6>



Part of the Intro to Cyber collection

# Security Awareness Training

Last Updated 9/5/23

Nanomodule  (3)

## Description

1. Recognize common security threats and vulnerabilities: Identify various types of security risks, including phishing attacks, social engineering tactics, malware, and physical security breaches. Understand the potential impact of these threats on organizational systems, data, and personal privacy.
2. Apply best practices for protecting sensitive information: Understand the importance of data privacy and confidentiality. Learn how to safeguard sensitive information, including passwords, personal data, and company assets. Implement secure practices such as password management, encryption, and secure file handling.
3. Understand the role of employee responsibility in maintaining security: Recognize that security is a shared responsibility among all employees. Comprehend the significance of following security policies and procedures, reporting suspicious activities, and adhering to access control measures. Develop a sense of personal accountability for maintaining a secure work environment.

<https://clark.center/details/vanom007/3db0f198-5031-4206-a0a4-4254ad0745fe>



2024

# Which resources are available?

CAE Community Symposium



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## FILTERS

### CATEGORY

- Academic Centers
- Academic Program
- Competition Frameworks
- Competitions
- Conference
- Curriculum
- Cyber Ranges And Tools
- Grant Deliverable
- Knowledge Units
- Other
- Report
- Student Developed Resources
- Workshop And Materials

### ORGANIZATION

Sort 

Total Results: 3014

#### Grant Deliverable **Montreat College Cybersecurity Oath**

There are no notes associated with this resource.

Montreat College

[Go to Resource](#) 

#### Workshop And Materials **Autonomous Systems Cybersecurity**

All of the contents of this course were created for a professional workshop in collaboration with the University of Colorado Colorado Springs for an instructor camp regarding Autonomous System Security.

Sinclair Community College

[Go to Resource](#) 

#### Academic Program **Anderson University - Cybersecurity**

The BA in Cybersecurity is a National Security Agency (NSA) validated Program of Study.

Anderson University

[Go to Resource](#) 

#### Academic Centers **Tarrant County College-Cyber Hub**



### FILTERS

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#### ORGANIZATION

Search Organizations

Search Resources

Total Results: 3014

**Grant Deliverable** Montreat

There are no notes associated with this resource.

Montreat College

**Workshop And Materials** Au

All of the contents of this course are available in the course materials. Colorado Colorado Springs for a

Sinclair Community College

**Academic Program** Anders

The BA in Cybersecurity is a National Security Agency (NSA) approved program.

Anderson University

**Academic Centers** Tarrant

# Grant Deliverable: Montreat College Cybersecurity Oath

Montreat College

### Notes

*There aren't any notes associated with this resource.*

[Go to Resource](#)

2024 CAE Community Symposium





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<https://clark.center>



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