

# Cybersecurity Career Awareness and Exploration:

A Toolkit and Framework for Introducing Students to  
Cybersecurity Career Opportunities



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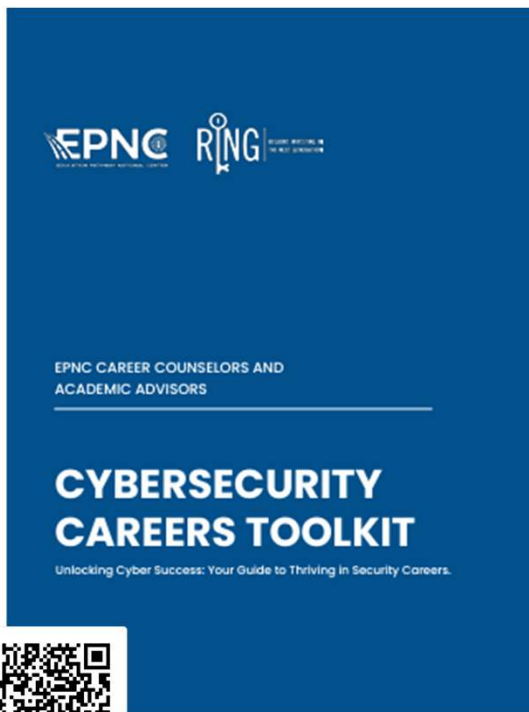
**Date:** November 15, 2024

**NCYTE**  
CENTER

CERTIFIED  
TRAINED  
SMART  
DEDICATED  
BRAVE

SOMEONE

# Cybersecurity Careers Toolkit



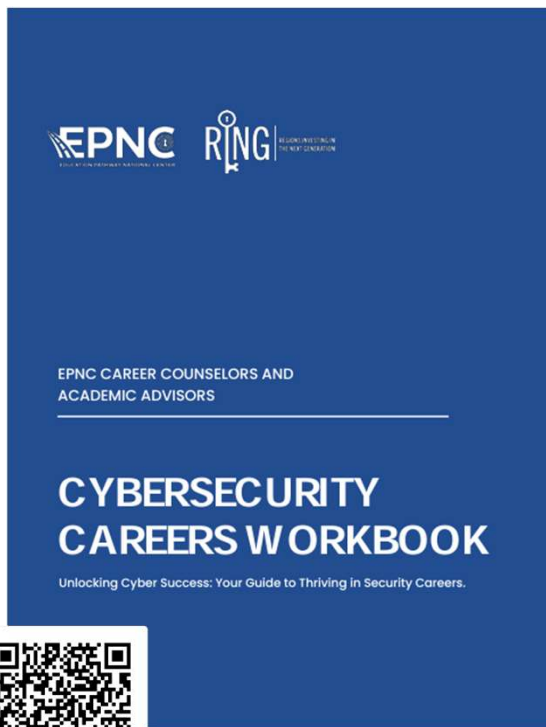
- Exploring Careers in Cybersecurity
- Reasons for Students to Pursue a Cybersecurity Career
- Overview of Academic Credentials
- Majors in Cybersecurity
- Industry-Recognized Cybersecurity Credentials
- Cybersecurity Scholarship Opportunities
- Building a Pathway to a Cybersecurity Career
- Engaging in Extracurricular Cybersecurity Activities



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<https://www.caepnc.org/careertoolkit>

# Cybersecurity Careers Workbook



- Exploring Cybersecurity Careers
- Considering Cybersecurity Careers
- Exploring Academic Credentials and Institutions in Cybersecurity
- Exploring Cybersecurity Majors and Their Impact on Career Prospects
- Cybersecurity Certification
- Exploring Cybersecurity Scholarship Opportunities
- Cybersecurity Career Pathways
- Exploring Cybersecurity Extracurricular Activities



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# Cybersecurity Careers Quick Reference Sheet

## CYBERSECURITY CAREERS- RESOURCES

### Workforce Framework for Cybersecurity (NICE Framework)

The NICE Framework establishes a common lexicon to describe cybersecurity work and workers regardless of where or for whom the work is performed.  
[niccs.cisa.gov/workforce-development/nice-framework](https://niccs.cisa.gov/workforce-development/nice-framework)



### Cyber Career Pathways Tool

Interactively explore the NICE Cybersecurity Workforce Framework according to five distinct skill communities and attributes for 52 work roles.  
[niccs.cisa.gov/workforce-development/cyber-career-pathways-tool](https://niccs.cisa.gov/workforce-development/cyber-career-pathways-tool)



### Cybersecurity for Students

Find resources and information for cybersecurity students, including education and training opportunities in the field.  
[niccs.cisa.gov/education-training/cybersecurity-students](https://niccs.cisa.gov/education-training/cybersecurity-students)



### CAE Institution Map

The CAE Institution map showcases the locations of CAEs designated by the NSA and the DHS in the field of cybersecurity education.  
[caecommunity.org/cae-map](https://caecommunity.org/cae-map)



### Cyber.org - Career Profiles

Cyber.org provides an overview of various cyber career profiles, offering information and insights into different roles within the cybersecurity field.  
[cyber.org/career-exploration/cyber-career-profiles](https://cyber.org/career-exploration/cyber-career-profiles)



### Cyber Seek - Heat Map and Pathways

Cyber Seek provides interactive tools and data to explore cybersecurity job demand, skills, and career pathways in the United States.  
[www.cyberseek.org/index.html](https://www.cyberseek.org/index.html)



## CYBERSECURITY CAREERS- RESOURCES

### Security Certification Roadmap - Paul Jerimy Media

IT Security Certification Roadmap charts security implementation, architecture, management, analysis, offensive, and defensive operation certifications.  
[pauljerimy.com/security-certification-roadmap/](https://pauljerimy.com/security-certification-roadmap/)



### ThreatMap by Check Point

An interactive visualization tool that displays real-time global cyber threat activity and provides insights into the current cybersecurity landscape.  
[threatmap.checkpoint.com](https://threatmap.checkpoint.com)



### Try Cyber Challenges by CISA

Try Cyber provides various cyber work role discovery/exploration micro-challenges, offering an engaging way to explore various cyber professions.  
[trycyber.us/challenges/](https://trycyber.us/challenges/)



### RING Cybersecurity Exploration

This link leads to a portal for enrolling in RING Central enterprise training provided by NetDevGroup.  
[portal.netdevgroup.com/learn/ring-ca-training/learn/](https://portal.netdevgroup.com/learn/ring-ca-training/learn/)



### RING Curriculum Request Form

The NICE Framework establishes a common lexicon to describe cybersecurity work and workers regardless of where or for whom the work is performed.  
[ringurl.com/RINGCurReq](https://ringurl.com/RINGCurReq)



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<https://www.caepnc.org/careertoolkit>

# What is cybersecurity?

the art of protecting information, information systems, networks, devices, and data from unauthorized access and digital attacks

## Cybersecurity professionals:

- are responsible for ensuring confidentiality, integrity, and availability of systems and information.
- are employed across every sector of the economy.
- have a broad range of responsibilities aimed at protecting digital assets, networks, and systems from cyber threats.



# Projected Growth of the Cyber Workforce

## By the numbers:

- More than **1.1 million cybersecurity jobs** available; but less than 500,000 professionals are trained for them.
- Worldwide, there will be 3.5 million unfilled cybersecurity jobs.
- Cybersecurity is projected to grow by 20% in 2025, and 33% from 2023 to 2033.
- 71% of organizations report that the cybersecurity skills shortage has impacted them.
- Less than 25% of the cybersecurity workforce is female.
- The median salary is \$81,000

# NICE Cybersecurity Workforce Framework

## 7 Categories

A high-level grouping of common cybersecurity functions.

## 11 Competency Areas

Focus on capabilities in a particular domain.

## 52 Work Roles

The most detailed groupings of cybersecurity work comprised of specific knowledge, skills, and abilities (KSAs) required to perform tasks in a Work Role.



<https://www.nist.gov/itl/applied-cybersecurity/nice/nice-framework-resource-center>

# CyberSeek: Heatmap



INTERACTIVE MAP

CAREER PATHWAY

EDUCATION AND TRAINING PROVIDERS

ABOUT



## CYBERSECURITY SUPPLY/DEMAND HEAT MAP

All

Public Sector Data

Private Sector...

Total job openings

Cybersecurity talent gaps exist across the country. Closing these gaps requires detailed knowledge of the cybersecurity workforce in your region. This interactive heat map provides a granular snapshot of demand and supply data for cybersecurity jobs at the state and metro area levels, and can be used to grasp the challenges and opportunities facing your local cybersecurity workforce.

Share

Embed

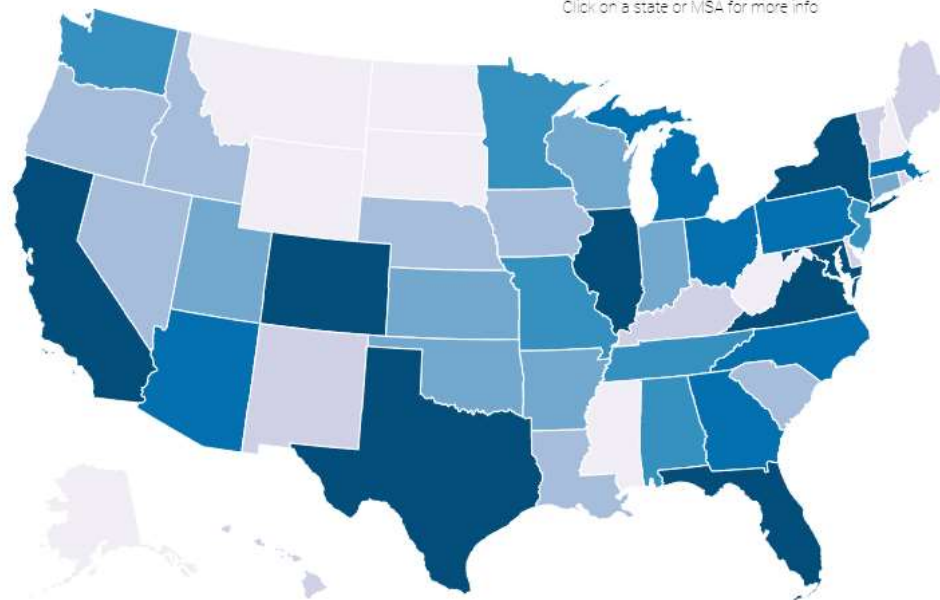
States

Metro Areas

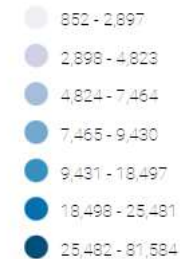
Search State



Click on a state or MSA for more info

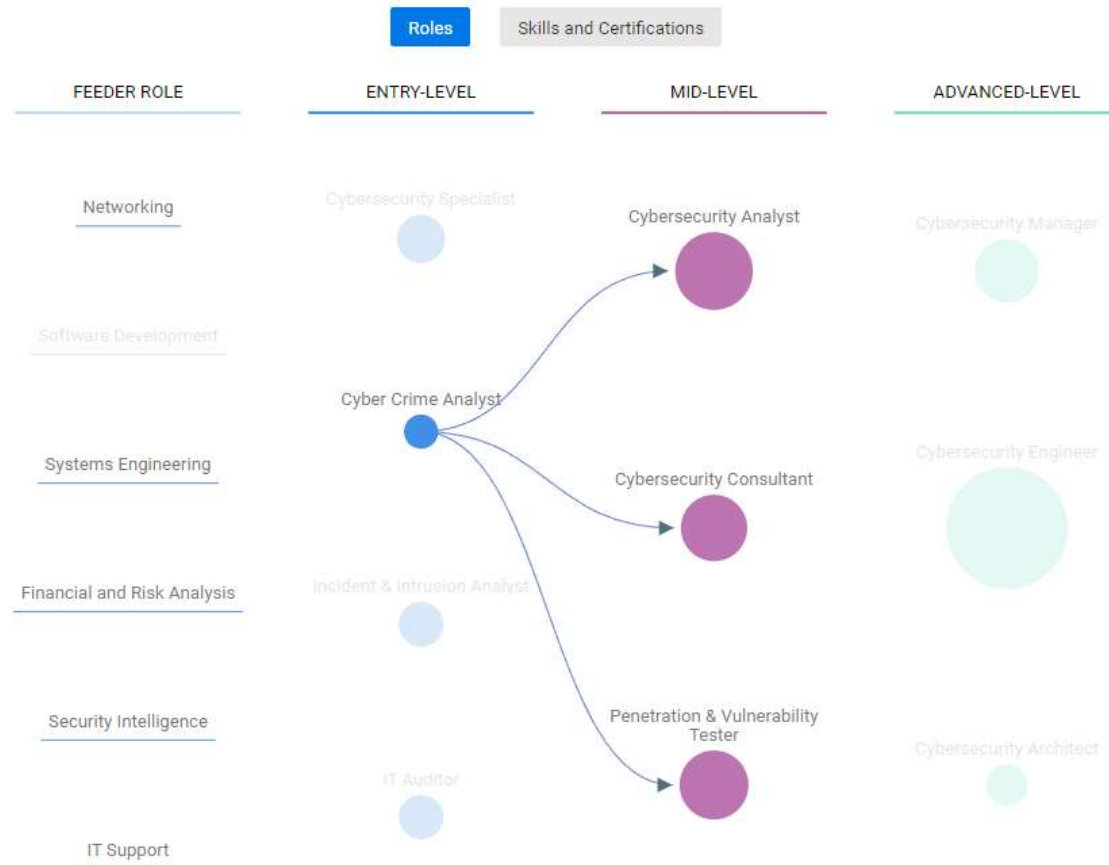


### TOTAL JOB OPENINGS



<https://cyberseek.org>

# CyberSeek: Career Pathways



<https://cyberseek.org>

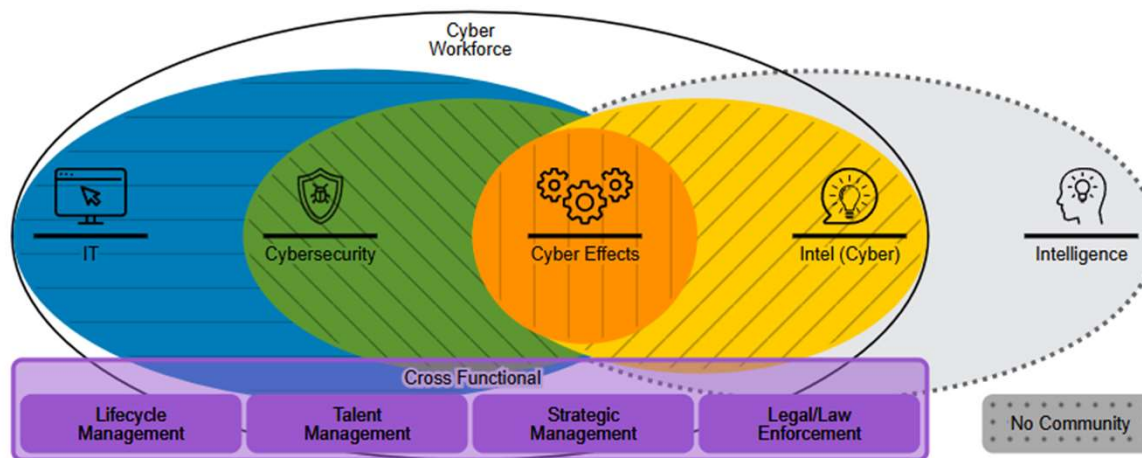
# Cyber Career Pathways Tool - NICCS

## NICE Framework Work Roles & TKS Statements Now Updated

This tool presents a new and interactive way to explore work roles within the Workforce Framework for Cybersecurity (NICE Framework). It depicts the Cyber Workforce according to five distinct, yet complementary, skill communities. It also highlights core attributes among each of the 52 work roles and offers actionable insights for employers, professionals, and those considering a career in Cyber. To start, select a work role below, or enter keywords in the search bar.

As a feature within Cyber Career Pathways Tool, the micro-challenges ([TryCyber](#)) consist of hands-on experiences that allow users to complete several core cybersecurity workforce tasks. The following cybersecurity work roles have available micro-challenges: [Data Analysis](#), [Database Administration](#), [Defensive Cybersecurity](#), [Digital Evidence Analysis](#), [Incident Response](#), [Network Operations](#), [Systems Administration](#), [Systems Security Analysis](#), [Technical Support](#), and [Vulnerability Analysis](#).

Explore the micro-challenges using the Tool below!



<https://niccs.cisa.gov/workforce-development/cyber-career-pathways-tool>

# Centers of Academic Excellence (CAE) Website

- CAE Institution Map
- Cybersecurity Career Explorer
- CAE Cyber Competitions Atlas

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

Institution Name

- CAE Designation -

- MSI Designation -

- State -

Distance (mi) Zip Code

GenCyber Host ⓘ

Scholarship for Service ⓘ

Cyber Service Academy ⓘ

APPLY RESET

<https://www.caecommunity.org/>



# Cybersecurity Scholarship Opportunities



**CyberCorps:  
Scholarship for Service**  
[sfs.opm.gov](https://sfs.opm.gov)



**Microsoft Last Mile:**  
[https://www.lastmile-ed.org/  
microsoftcybersecurityscholarship](https://www.lastmile-ed.org/microsoftcybersecurityscholarship)

# Extracurricular Activities



<https://www.uscyberpatriot.org>



<https://www.gen-cyber.com>



<https://nationalcyberleague.org>



<https://pictocft.org>

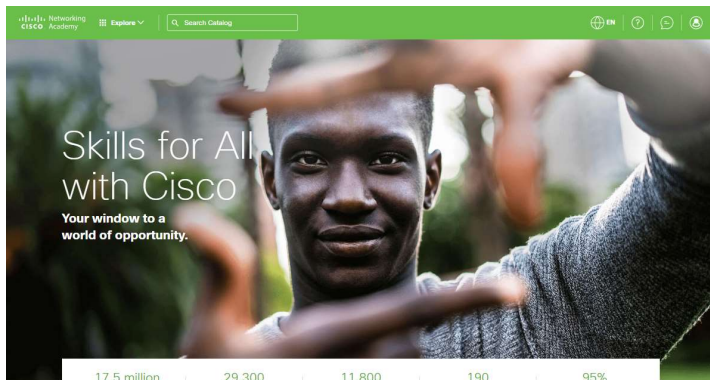


<https://trycyber.us/>



<https://tryhackme.com/>

# Additional Activities & Resources

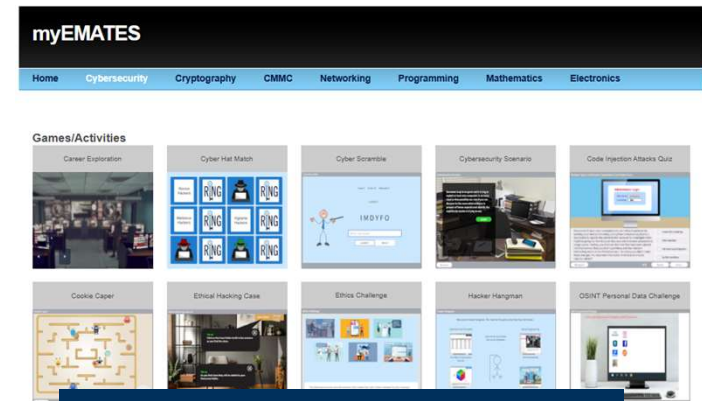


<https://skillsforall.com/>



Learn

<https://learn.microsoft.com/>



<https://myemates.org/>



<https://www.wicys.org/>



<https://www.cisa.gov/careers/work-rolescyber-and-it-interns>

# Questions?

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