# **Need to make Career Choices?**

Considering a cybersecurity career?

• The following slides are intended to provide helpful information that can be used in determining if a career in cybersecurity is for you and the many options available to specialize. Many do not realize the breadth of this career field.





#### JOIN THE CYBER WORKFORCE

Source: https://niccs.cisa.gov/

# **Cybersecurity Training Paths**



https://www.cybersecuritydegrees.com/faq/prepare-career-cyber-security/



# How to get "Certified" for Cybersecurity









### Bootcamps, Seminars, Workshops







# What is your interest area?

- The NICE Framework is a good example of how many specialty areas and options are available in the cybersecurity field
- Most cybersecurity work roles have both technical or nontechnical aspects



https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.800-181r1.pdf

# **NICE Framework Breakdown**



Task Examples:

- Troubleshoot system hardware and software
- Conduct interactive training exercises

Knowledge Examples:

- Knowledge of cyberspace threats and vulnerabilities
- Knowledge of vulnerability information dissemination sources

Skill Examples:

- Skill in recognizing the alerts of an Intrusion
  Detection System
- Skill in generating a hypothesis as to how a threat actor circumvented the Intrusion Detection System

## Many professional certifications



Security Certification Roadmap

473 certifications listed | January 2023

https://pauljerimy.com/security-certification-roadmap/

# SANS Institute



## CompTIA.



https://www.comptia.org/



## Start today with ISACA's most in-demand credentials



INFORMATION SYSTEMS AUDITOR CERTIFIED INFORMATION SECURITY MANAGER CERTIFIED IN RISI AND INFORMATION SYSTEMS CONTROL CERTIFIED DATA PRIVACY SOLUTIONS ENGINEER

CERTIFIED IN THE GOVERNANCE OF ENTERPRISE IT

CERTIFICATES



Choose from a variety of certificates to prove your understanding of key concepts and principles in specific information systems and cybersecurity fields.

https://www.isaca.org/

## EC-Council

### Certifications

#### ETHICAL HACKING

- Certified Ethical Hacker (C|EH)
- > C EH (MASTER)

#### EXECUTIVE MANAGEMENT

 Certified Chief Information Security Officer (C|CISO)

#### COMPUTER FORENSICS

 Computer Hacking Forensic Investigator (C|HFI)

#### NETWORK SECURITY

 Certified Network Defender (C|ND)

#### ENCRYPTION

 Certified Encryption Specialist (E|CES)

#### EN TESTING

 Certified Penetration Testing Professional (C|PENT)

#### INCIDENT HANDLING

- Certified Incident Handler (E|CIH)
- Certified Threat Intelligence Analyst (C|TIA)
- > Certified SOC Analyst (C|SA)

#### CLOUD SECURITY

 Certified Cloud Security Engineer (C|CSE)

#### DEVSECOPS

 Certified DevSecOps Engineer (E|CDE)

#### CYBER TECHNICIAN

 Certified Cybersecurity Technician (C|CT)

#### BLOCKCHAIN

- Blockchain Developer Certification (B|DC)
- Blockchain Fintech Certification (B|FC)
- Blockchain Business Leader Certification (B|BLC)

### USINESS CONTINUITY AND

 Disaster Recovery Professional (E|DRP)

#### FUNDAMENTALS

- Certified Secure Computer User (C|SCU)
- EC-Council Certified Security Specialist (E|CSS)

#### ESSENTIALS SERIES

- Network Defense Essentials (N|DE)
- Ethical Hacking Essentials (E|HE)
- Digital Forensics Essentials (D|FE)

#### PLICATION SECURITY

- Certified Application Security Engineer (C|ASE .NET)
- Certified Application Security Engineer (C|ASE Java)
- Web Application Hacking and Security

### **Micro Learning**

- > Python Programming for Beginners
- Learn Python Online: From Novice to Pro
- Microdegree in Python Security
- Microdegree in PHP Security
- Identity and Access Management
- Linux Fundamentals
- Linux-Server Administration
- Cybersecurity for Blockchain from Ground Up
- Cybersecurity for Business
- Email Phishing

### https://www.eccouncil.org/



#### **Penetration Testing**

PEN-200: Penetration Testing with Kali Linux (OSCP)

PEN-210: Foundational Wireless Network Attacks (OSWP)

PEN-300: Advanced Evasion Techniques and Breaching Defenses (OSEP)

#### Web Application

Linux (OSWA)



WEB-200: Foundational Web Application Assessments with Kali



WEB-300: Advanced Web Attacks and Exploitation (OSWE)

#### Exploit Development

EXP-301: Windows User Mode Exploit Development (OSED)

EXP-312: Advanced macOS Control Bypasses (OSMR)

EXP-401: Advanced Windows Exploitation (OSEE)

#### Security Operations



SOC-200: Foundational Security Operations and Defensive Analysis (OSDA)

#### **Fundamental Learning Paths**

- PEN: Network Penetration Testing Essentials
- WEB: Web Application Assessment Essentials
- EXP: Exploit Development Essentials
  - SOC: Security Operations Essentials
  - CLD: Introduction to Cloud Security

SSD: Introduction to Secure Software Development

https://www.offsec.com/

## Hands-On Cybersecurity Training Resources

https://tryhackme.com/ https://www.hackthebox.com/ https://pentesterlab.com/ https://portswigger.net/ https://labs.hackxpert.com/ https://www.vulnhub.com/ https://letsdefend.io/ https://www.vulnmachines.com/ https://www.hacker101.com/ https://picoctf.org/ https://hackmyvm.eu/ https://try2hack.me/ https://www.rangeforce.com/ https://twitter.com/vhackinglabs?lang=en https://twitter.com/bugbountyhunt3r?lang=en https://twitter.com/cyberseclabsuk?lang=en https://www.certifiedsecure.com/frontpage https://ctftime.org/ https://247ctf.com/ https://www.cybrary.it/



**Capture the Flag (CTF)** in cybersecurity is an exercise in which "flags" are hidden in intentionally-vulnerable programs, virtual machines, or websites. CTFs can be either competitive or educational. Participants find flags either from other participants (attack/defense-style CTFs) or from the organizers (jeopardystyle challenges). Several variations exist. CTFs can include hiding flags in hardware devices, they can be both online or in-person, and can be advanced or entry-level. The game is based on the traditional outdoor sport of the same name.

# What are you waiting for?

