

# EC-Council



**E | C S S**<sup>TM</sup>  
EC-Council | Certified Security Specialist

EC-Council Certified  
Security Specialist

**START YOUR  
CYBERSECURITY  
TRAINING TODAY!**

**Learn the Fundamentals  
of 3 Core Domains of  
Cybersecurity**

- NETWORK DEFENSE
- ETHICAL HACKING
- DIGITAL FORENSICS

# COURSE DESCRIPTION



EC-Council Certified Security Specialist (ECSS) is an entry level security program covering the fundamental concepts of Network Defense, Ethical Hacking, and Digital Forensics. It enables students to identify information security threats which reflect on the security posture of the organization and implement general security controls. This program will give a holistic overview of the key components of Network Defense, Ethical Hacking, and Digital Forensics. This program provides the solid fundamental knowledge required for a career in information security.

## ECSS EMPOWERS INDIVIDUALS TO:

- Gain Foundational Knowledge in Cybersecurity
- Practice Essentials Skills such as how to defend networks and investigate them
- Challenge Industry recognized exams and earn cybersecurity credentials to build and further your career

## WHY IS ECSS IMPORTANT?

It facilitates your entry into the world of Information Security.

It provides professional understanding about the concepts of Network Defense, Ethical Hacking, and Digital Forensics.

It provides best practices to improve organizational security posture.

It enhances your skills as a Security Specialist and increases your employability.

# WHO IS IT FOR?

## TARGET AUDIENCE

### High School Students

- Who wants to get an early start to their cybersecurity career and master the fundamentals of security online.
- Who wants to prepare for a cybersecurity career and aid their IT education.

### College University/Students

- Who wants to get into a cybersecurity field and don't know where to start their education journey.

### Working Professionals

- Who wants to get into a cybersecurity field and don't know where to start their education journey.

## JOB ROLES

- ECSS helps to prepare to apply for entry level job roles in Network Defense, Ethical Hacking and Digital Forensics.



**DURATION: 5 DAYS OR 40 HOURS**

## EXAM DETAILS



**EXAM TITLE: EC-COUNCIL  
CERTIFIED SECURITY SPECIALIST**

**NUMBER OF QUESTIONS: 100**

**PASSING SCORE: 70%**

**EXAM AVAILABILITY:**

**DURATION: 3 HOURS**

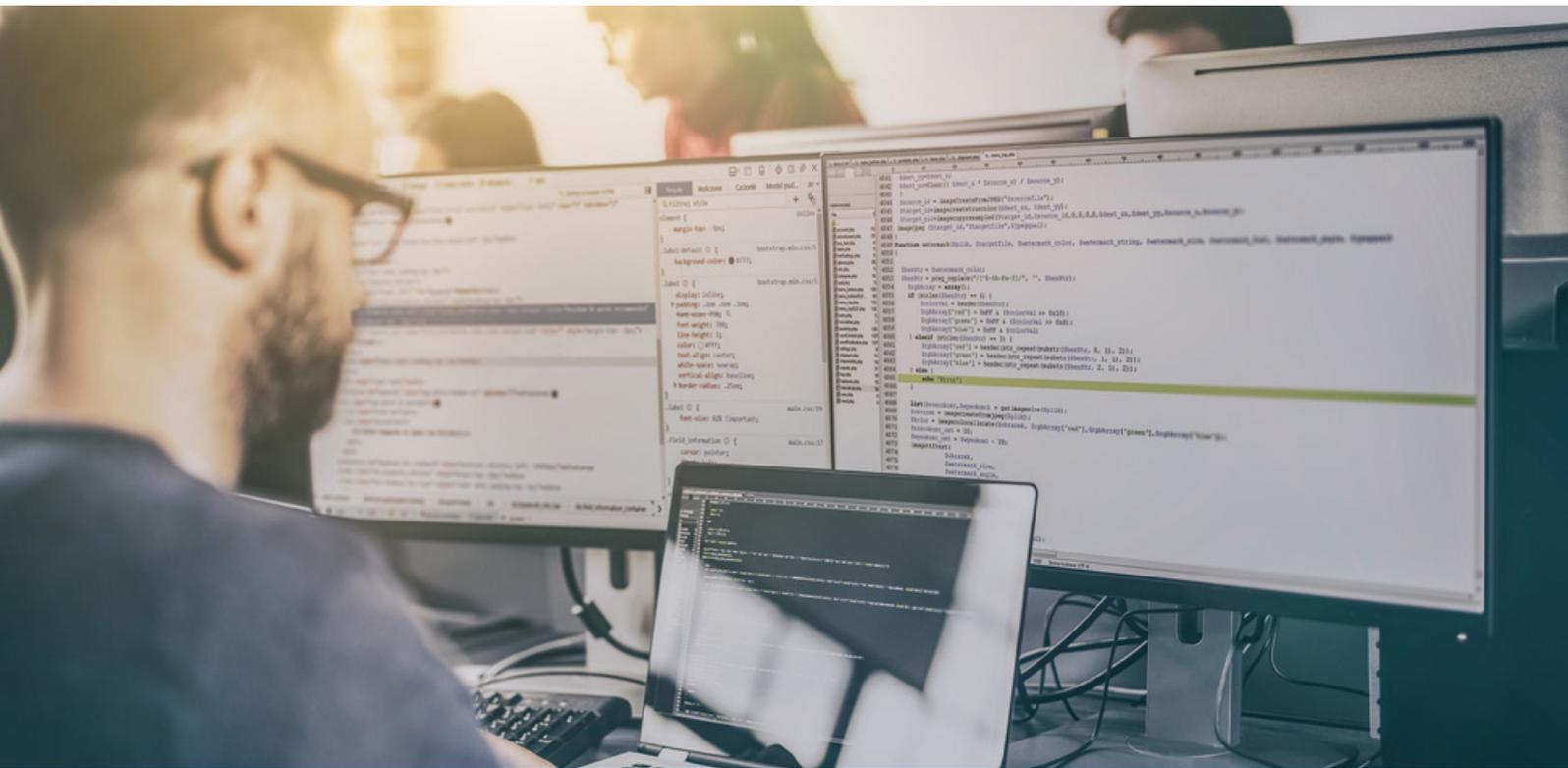
**EC-COUNCIL EXAM PORTAL**

**TEST FORMAT: MULTIPLE CHOICE**

# COURSE OUTLINE

## NETWORK DEFENSE ESSENTIALS

1. **Network Security Fundamentals**
2. **Identification, Authentication, and Authorization**
3. **Network Security Controls: Administrative Controls**
4. **Network Security Controls: Physical Controls**
5. **Network Security Controls: Technical Controls**
6. **Virtualization and Cloud Computing**
7. **Wireless Network Security**
8. **Mobile Device Security**
9. **IoT Device Security**
10. **Cryptography and the Public Key Infrastructure**
11. **Data Security**
12. **Network Traffic Monitoring**
13. **Information Security Fundamentals**



# ETHICAL HACKING ESSENTIALS

14. Ethical Hacking Fundamentals
15. Information Security Threats and Vulnerability Assessment
16. Password Cracking Techniques and Countermeasures
17. Social Engineering Techniques and Countermeasures
18. Network Level Attacks and Countermeasures
19. Web Application Attacks and Countermeasures
20. Wireless Attacks and Countermeasures
21. Mobile Attacks and Countermeasures
22. IOT & OT Attacks and Countermeasures
23. Cloud Computing Threats and Countermeasures
24. Penetration Testing Fundamentals

# DIGITAL FORENSICS ESSENTIALS

25. **Computer Forensics Fundamentals**
26. **Computer Forensics Investigation Process**
27. **Understanding Hard Disks and File Systems**
28. **Data Acquisition and Duplication**
29. **Defeating Anti-forensics Techniques**
30. **Windows Forensics**
31. **Linux and Mac Forensics**
32. **Network Forensics**
33. **Investigating Web Attacks**
34. **Dark Web Forensics**
35. **Investigating Email Crimes**
36. **Malware Forensics**

# WHAT WILL YOU LEARN?

Students going through ECSS training will learn:

## **Network Security Fundamentals:**

- Fundamentals of network security
- Network security protocols that govern the flow of data

## **Identification, Authentication, and Authorization:**

- Access control principles, terminologies, and models
- Identity and access management (IAM)

## **Network Security Controls: Administrative Controls**

- Regulatory frameworks, laws, and acts
- Security policies, and how to conduct security and awareness training

## **Network Security Controls: Physical Controls**

- Importance of physical security and physical security controls
- Physical security policies and procedures
- Best practices to strengthen workplace security
- Environmental controls

## **Network Security Controls: Technical Controls**

- Types of bastion hosts and their role in network security
- IDS/IPS types and their role in network defense
- Types of honeypots and virtual private networks (VPNs)
- Security incident and event management (SIEM)

### Virtualization and Cloud Computing

- Key concepts of virtualization and OS virtualization security
- Cloud computing fundamentals and cloud deployment models
- Cloud security best practices

### Wireless Network Security

- Fundamentals of wireless networks and encryption mechanisms
- Wireless network authentication methods
- Implementing wireless network security measures

### Mobile Device Security

- Mobile device connection methods and management
- Mobile use approaches in enterprises
- Security risks and guidelines associated with enterprise mobile usage policies
- Implement various enterprise-level mobile security management solutions
- Best practices on mobile platforms

### IoT Device Security

- IoT devices, application areas, and communication models
- How security works in IoT-enabled environments

### Cryptography and PKI

- Cryptographic tools, security techniques, and algorithms
- Public key infrastructure (PKI) to authenticate users and devices in the digital world

### Data Security

- Data security and its importance
- Security controls for data encryption
- Perform data backup and retention
- Implement data loss prevention concepts

### Network Traffic Monitoring

- Network traffic monitoring concepts.
- Traffic signatures for normal and suspicious network traffic.
- Perform network monitoring to detect suspicious traffic

### Information Security Fundamentals

- Information security fundamentals
- Information security laws and regulations

### **Ethical Hacking Fundamentals**

- Cyber Kill Chain methodology
- Hacking concepts, hacking cycle, and different hacker classes
- Ethical hacking concepts, scope, and limitations

### **Information Security Threats and Vulnerabilities**

- Detect various threat sources and vulnerabilities in a network or system
- Different types of malwares

### **Password Cracking Techniques and Countermeasures**

- Types of password cracking techniques

### **Social Engineering Techniques and Countermeasures**

- Social engineering concepts and techniques
- Insider threats and identity theft concepts

### **Network-Level Attacks and Countermeasures**

- Packet sniffing concepts and types
- Sniffing techniques and countermeasures
- DoS and DDoS attacks under sniffing attacks

### **Web Application Attacks and Countermeasures**

- Web Server Attacks
- Web Application Attacks
- Web Application Architecture and Vulnerability Stack Web Application Threats and Attacks
- SQL Injection Attacks
- Types of SQL Injection Attacks

### **Wireless Attacks and Countermeasures**

- Wireless Terminology
- Types of Wireless Encryption
- Wireless Network-specific Attack Techniques Bluetooth Attacks
- Wireless Attack Countermeasures

### **Mobile Attacks and Countermeasures**

- Mobile Attack Anatomy
- Mobile Attack Vectors and Mobile Platform Vulnerabilities

**IoT and OT  
Attacks and  
Countermeasures**

**IoT Attacks**

- IoT Devices, their need and Application Areas
- IoT Threats and Attacks

**OT Attacks**

- Understand OT Concepts
- OT Challenges and Attacks
- OT Attacks Countermeasures

**Cloud Computing  
Threats and  
Countermeasures**

- Cloud Computing Concepts
- Container Technology
- Cloud Computing Threats
- Cloud Computing Countermeasures

**Penetration  
Testing  
Fundamentals**

- Fundamentals of Penetration Testing and its Benefits
- Various Types and Phases of Penetration Testing
- Guidelines and Recommendations for Penetration Testing

**Computer  
Forensics  
Fundamentals**

- Fundamentals of computer forensics and digital evidence
- Objectives of forensic readiness to reduce the cost of investigation
- Roles and responsibilities of a forensic investigator.
- Legal compliance in computer forensics

**Computer Forensics  
Investigation  
Process**

- Forensic investigation process and its importance
- Forensic investigation phases

**Understanding  
Hard Disks and File  
Systems**

- Types of disk drives and their characteristics
- Booting process of Windows, Linux, and Mac operating systems
- Examine file system records during an investigation

**Data  
Acquisition and  
Duplication**

- Data acquisition fundamentals, methodologies, and their different types
- Determine the data acquisition format

**Defeating  
Anti-forensics  
Techniques**

- Anti-forensics techniques and their countermeasures

## Windows Forensics

- How to gather volatile and non-volatile information
- Perform Windows memory and registry analysis
- Analyze the cache, cookie, and history recorded in web browsers
- Examine Windows files and metadata

## Linux and Mac Forensics

- Volatile and non-volatile data in Linux
- Analyze filesystem images using the sleuth kit
- Demonstrate memory forensics
- Mac forensics concepts

## Network Forensics

- Network forensics fundamentals
- Event correlation concepts and types
- Identify indicators of compromise (IoCs) from network logs
- Investigate network traffic for suspicious activity

## Investigating Web Attacks

- Web application forensics and web attacks
- Understand IIS and Apache web server logs
- Detect and investigate various attacks on web applications

## Dark Web Forensics

- Dark web forensics investigation and how it works.
- Tor browser forensics

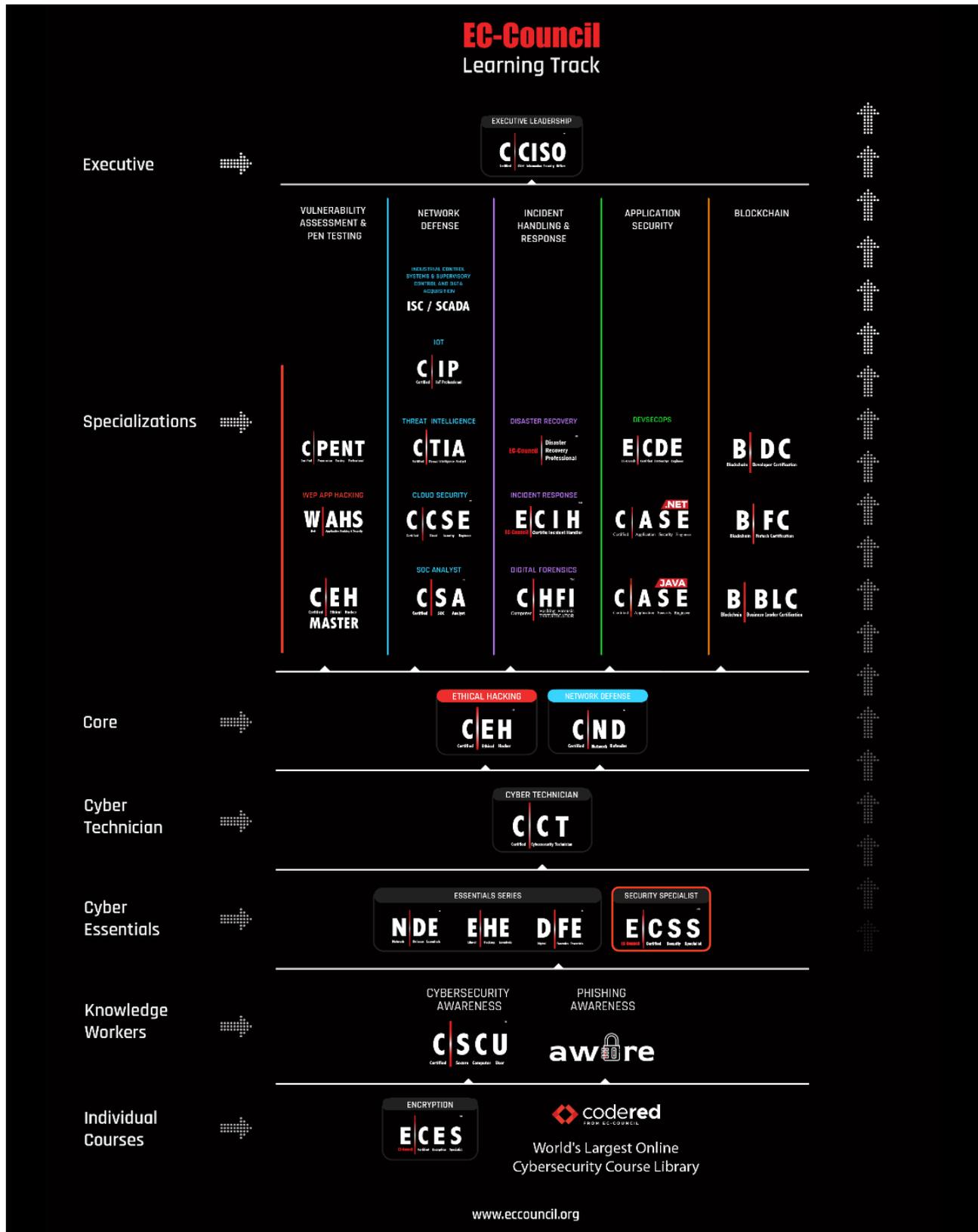
## Investigating Email Crime

- Email basics and how it can be used as evidence
- Techniques and steps used in email crime investigation

## Malware Forensics

- Malware, its components, and distribution methods
- Malware forensics fundamentals and types of malware analysis
- Perform static malware analysis and dynamic malware analysis
- Conduct system and network behavior analysis

# WHERE DOES ECSS FITS IN EC-COUNCIL CAREER PATH?





# EC-COUNCIL CERTIFIED SECURITY SPECIALIST

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[www.eccouncil.org](http://www.eccouncil.org)

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