

## Certified Ethical Hacker (CEH)

### COURSE OVERVIEW:

The Certified Ethical Hacker CEH Training course at UMBC Training is a 40-hour immersion into ethical hacking designed to provide professionals with the expertise and insight necessary to prepare for and react to malicious intrusion.

This class will immerse students in an interactive environment where they will be shown how to scan, test, hack, and secure their own systems. The lab-intensive environment gives each student in-depth knowledge and practical experience with the current essential security systems. Students will begin by understanding how perimeter defenses work and then learn to scan and attack their own networks. No real network is harmed during these instructions. Students then learn how intruders escalate privileges and the necessary steps to secure a system. Students will also learn about Intrusion Detection, Policy Creation, Social Engineering, DDoS Attacks, Buffer Overflows and Virus Creation in the process. When a student leaves this class, they will have hands-on understanding and experience in Ethical Hacking.

Topics covered include:

- Trojans and Backdoors
- Viruses and worms
- Hacking Web Servers
- SQL Injection
- Physical Security
- Cryptography
- Data Loss Prevention
- Patch Management

### WHO WILL BENEFIT FROM THIS COURSE?

The Certified Ethical Hacker CEH Training course is designed for security officers, auditors, security professionals, site administrators, and anyone who is concerned about the integrity of the network infrastructure.

### PREREQUISITES:

Students taking this course should have a working knowledge of Linux and strong Microsoft Windows skills, a solid understanding of computer networking, and CompTIA Security+ and Network+ certification or equivalent knowledge.

### COURSE OBJECTIVES:

Upon completing the Certified Ethical Hacker CEH Training course, students will be able to:

- Identify potential security weaknesses,
- Respond to malicious activity with experiential knowledge, and
- Secure systems with the best methods
- Sit for the EC Council Certified Ethical Hacker Examination

This training prepares individuals for the following positions:

- Ethical Hacker
- Security Analyst

**COURSE OUTLINE:**

**Intro to Ethical Hacking**

- Current trends and security threats
- Scope and limitations of ethical hacking
- Information security management, policies, and incident management
- Vulnerability research, pen test process, and security acts/laws

**Footprinting and Reconnaissance**

- Footprinting terminology
- Footprinting methodology
- Footprinting tools
- Footprinting countermeasures / pen test steps

**Scanning Networks**

- Check for live systems and ports / identifying services
- Banner grabbing / OS fingerprinting
- Scanning for vulnerabilities
- Draw network diagrams
- Prepare proxies
- Pen test steps for scanning networks

**Enumeration**

- Extracting user names, machine names, and network resources from a system
- Enumerate NetBIOS, SNMP, LDAP, NTP, SMTP, and DNS
- Using various tools extract information
- Pen test steps for enumeration

**System Hacking**

- Gaining access, maintaining access, and clearing logs
- Hacking tools (keyloggers, spyware, and root kits)
- Steganography techniques
- System attack countermeasures
- Pen test steps for system hacking

**Malware Threats**

- Malware propagation techniques
- Trojans, viruses, and worms
- Malware analysis
- Detect virus', worms, and trojans
- Pen test steps for malware threats

**Sniffing**

- Basic concepts of sniffing on the network
- MAC flooding, DHCP attacks, ARP spoofing, and ARP/DNS poisoning
- Sniffing tools
- Pen test steps for sniffing

### **Social Engineering**

- Social engineering attack phases
- Types of social engineering
- Impersonation based social engineering
- Social engineering countermeasures
- Pen test steps in social engineering

### **Denial of Service**

- Classify DoS and DDoS attacks and techniques
- Botnets and how they infect a system
- Tools used to perform DoS/DDoS
- Pen test steps for DoS/DDoS

### **Session Hijacking**

- Concepts
- Techniques and tools
- Countermeasures
- Pen test steps for session hijacking

### **Hacking Webservers**

- Reasons for webserver compromise
- Open source and IIS architecture
- Attack tools and techniques
- Countermeasures
- Pen test steps for hacking webservers
- Hacking Web Applications

### **Intro to web applications**

- Web application architecture
- Threats and attacks
- Web application hacking and security tools
- Pen test steps for web applications

### **SQL Injection**

- Threats from SQL injection attacks
- Types of attacks
- Methodology, injection tools, and detection tools
- Pen test steps for SQL injection
- Hacking Wireless Networks

### **Types of wireless networks and standards**

- Terminology and encryption
- Threats and hacking wireless network methodology
- Pen test steps in hacking wireless networks
- Hacking Mobile Platforms

**Mobile attack vectors**

- Android OS architecture
- Jailbreaking IOS
- Windows phone 8 architecture
- Pen test steps in hacking wireless networks
- Evading IDS, Firewalls, and Honeypots

**IDS, firewall, and honeypot solutions**

- IDS, firewall, and honeypot placement
- Evasion techniques
- Tools and countermeasures
- Pen test steps in evading IDS, Firewalls, and Honeypots
- Cloud Computing

**Basics of cloud computing and services**

- Security considerations
- Threats, tools, and attacks
- Pen test steps in cloud computing
- Cryptography

**Intro to cryptography concepts**

- Tools
- Public Key Infrastructure (PKI)
- Cyphers, AES, DES
- RSA
- Pen test steps for cryptography

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Sunset Learning Institute (SLI) has been an innovative leader in developing and delivering authorized technical training since 1996. Our goal is to help our customers optimize their cloud technology investments by providing convenient, high quality technical training that our customers can rely on. We empower students to master their desired technologies for their unique environments.

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**Premiere World Class Instruction Team**

- All SLI instructors have a four-year technical degree, instructor level certifications and field consulting work experience.
- Sunset Learning has won numerous Instructor Excellence and Instructor Quality Distinction awards since 2012

**Enhanced Learning Experience**

- The goal of our instructors during class is ensure students understand the material, guide them through our labs and encourage questions and interactive discussions.

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- Enthusiastic Student Services team available to answer any questions and ensure a quality training experience