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Openminds Technologies

Cyber Security Course

- Introduction to Ethical Hacking
- Footprinting and Reconnaissance
- Scanning Networks
- Enumeration
- Vulnerability Analysis
- System Hacking
- Malware Threats
- Sniffing
- Social Engineering
- Denial-of-Service (DoS)
- Session Hijacking
- Hacking Web Applications
- SQL Injection
- Wireless Network Hacking

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1 Introduction to Ethical Hacking

- Information Security Overview
- Cybersecurity Fundamentals
- Hacking Concepts and Hacker Classes
- Ethical Hacking Concepts
- Hacking Methodologies and Frameworks
- Information Security Controls
- Information Security Laws and Standards
- Information Security Governance
- Cybersecurity Careers and Certifications

2 Footprinting and Reconnaissance

- Footprinting Concepts
- Footprinting Through Search Engines
- Through Internet Research Services
- Through Social Networking Sites
- Website Footprinting
- Email Footprinting
- DNS Footprinting
- Network Footprinting
- WHOIS and Domain Information Gathering
- Google Hacking Database (GHDB)
- Metadata Extraction
- Countermeasures

3 Scanning Networks

- Network Scanning Concepts
- TCP/IP Fundamentals
- Host Discovery Techniques
- Port and Service Scanning
- Banner Grabbing
- OS Fingerprinting
- Vulnerability Scanning
- Scanning Tools (Nmap, Zenmap, Masscan)
- Countermeasures

4 Enumeration

- Enumeration Concepts
- NetBIOS Enumeration
- SNMP Enumeration
- LDAP Enumeration
- SMB Enumeration
- NTP Enumeration
- SMTP Enumeration
- DNS Enumeration
- Enumeration Countermeasures

5 Vulnerability Analysis

- Vulnerability Assessment Concepts
- Vulnerability Scoring Systems
- Vulnerability Management Lifecycle
- Common Vulnerabilities (CVE, CWE)
- Vulnerability Scanners
- Risk Assessment
- Reporting and Remediation

6 System Hacking

Password Cracking Techniques
Authentication Attacks
Privilege Escalation
Executing Applications
Maintaining Access
Covering Tracks

7 Malware Threats

Malware Concepts
Viruses
Worms
Trojans
Ransomware
Spyware and Adware
Rootkits
Malware Analysis Basics
Malware Countermeasures

8 Sniffing

Packet Sniffing Concepts
Active vs Passive Sniffing
ARP Poisoning
MAC Flooding
DHCP Attacks
Packet Analysis Tools
Wireshark Fundamentals
Countermeasures

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9 Social Engineering

- Social Engineering Concepts
- Human-Based Attacks
- Computer-Based Attacks
- Phishing
- Spear Phishing
- Whaling
- Vishing and Smishing
- Insider Threats
- Countermeasures

10 Denial-of-Service (DoS)

- DoS Concepts
- DDoS Attacks
- Botnets
- Reflection and Amplification Attacks
- Detection and Prevention
- Countermeasures

11 Session Hijacking

- DoS Concepts
- DDoS Attacks
- Botnets
- Reflection and Amplification Attacks
- Detection and Prevention
- Countermeasures

12 Evading IDS, Firewalls, and Honeypots

- DoS Concepts
- DDoS Attacks
- Botnets
- Reflection and Amplification Attacks
- Detection and Prevention
- Countermeasures

13 Hacking Web Servers

- Web Server Concepts
- Web Server Architecture
- Web Server Attacks
- IIS and Apache Security
- Log Analysis
- Countermeasures

14 Hacking Web Applications

- Web Application Architecture
- OWASP Top 10
- SQL Injection
- Cross-Site Scripting (XSS)
- Cross-Site Request Forgery (CSRF)
- File Inclusion
- Authentication Attacks
- API Security
- Countermeasures

15 SQL Injection

- SQL Basics
- SQL Injection Concepts
- Types of SQL Injection
- Prevention Methods
- Secure Coding Practices
- IoT Vulnerabilities
- Industrial Control Systems (ICS)
- SCADA Security
- Smart Device Security

16 Wireless Network Hacking

- Wireless Technologies
- Wi-Fi Security Standards
- Wireless Encryption
- Wireless Attacks
- Rogue Access Points
- WPA / WPA2 / WPA3 Security

17 Mobile Platform Security

- Mobile Security Concepts
- Android Security
- iOS Security
- Mobile Threats
- Mobile Device Management (MDM)

17 IoT and OT Hacking

- IoT Architecture
- Embedded Systems

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19 Cloud Computing

- Cloud Computing Fundamentals
- Cloud Service Models
- Cloud Deployment Models
- Cloud Threats
- Cloud Security Controls
- Identity and Access Management
- Container Security

20 Cryptography

- Cryptography Fundamentals
- Encryption Algorithms
- Hashing Algorithms
- Digital Signatures
- Public Key Infrastructure (PKI)
- SSL / TLS
- Certificates
- Cryptographic Attacks

* Appendices

- Appendix A: Common Ports and Protocols
- Appendix B: Linux Commands for Ethical Hackers
- Appendix C: Windows Security Commands
- Appendix D: Networking Cheat Sheet
- Appendix E: Nmap Cheat Sheet
- Appendix F: Wireshark Cheat Sheet
- Appendix G: OWASP Top 10 Reference
- Appendix H: MITRE ATT&CK Framework
- Appendix I: Cybersecurity Glossary
- Appendix J: Practice Questions
- Appendix K: CEH Exam Preparation Guide
- Appendix L: References and Further Reading