

# 6-Month Cybersecurity Course Roadmap

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## Section 1: Introduction to All Operating Systems (Month 1-2)

### Week 1-2: Windows OS Security

- ♦ Understanding Windows OS Architecture
- ♦ User Management & Permissions
- ♦ Windows Security Features (Defender, BitLocker, UAC)
- ♦ Hands-on: Configuring Windows Firewall & Defender

### Week 3-4: Linux OS Security

- ♦ Linux Basics (File System, Users, Groups, Permissions)
- ♦ Securing SSH & Firewalls (UFW, IPTables)
- ♦ Hands-on: Hardening a Linux System
- ♦ Introduction to Kali Linux & Parrot OS for Security Testing

### Week 5-6: macOS & Mobile OS Security

- ♦ macOS Security Features (FileVault, Gatekeeper, SIP)
- ♦ iOS vs. Android Security
- ♦ Hands-on: Configuring Mobile Security Settings

### Week 7-8: Virtualization & Cloud Security

- ♦ Introduction to Virtual Machines (VMware, VirtualBox)
- ♦ Hands-on: Setting up a Cybersecurity Lab (Windows, Linux, Kali)
- ♦ Cloud Security Basics (AWS, Azure, Google Cloud)

## Section 2: Networking Security Tools (Month 3-4)

### Week 9-10: Network Basics & Packet Analysis

- ♦ Understanding TCP/IP, DNS, DHCP, HTTP vs. HTTPS
- ♦ Network Protocols & Packet Sniffing
- ♦ Hands-on: Analyzing Traffic with Wireshark

### Week 11-12: Firewalls, IDS & IPS

- ♦ How Firewalls Work (Software vs. Hardware Firewalls)

- ♦ Introduction to IDS/IPS (Snort, Suricata)
- ♦ Hands-on: Configuring a Firewall & IDS

#### Week 13-14: VPNs, Proxy & Anonymity

- ♦ Understanding VPNs, Tor, and Proxies
- ♦ Hands-on: Setting up a VPN & Secure Browsing

#### Week 15-16: Wireless Network Security

- ♦ Wi-Fi Security Protocols (WPA2, WPA3, WEP)
- ♦ Hands-on: Wireless Network Scanning & Defense

### Section 3: Hacking Tools & Ethical Hacking (Month 5-6)

#### Week 17-18: Reconnaissance & Footprinting Tools

- ♦ OSINT Tools (Shodan, Recon-ng)
- ♦ Hands-on: Passive & Active Reconnaissance

#### Week 19-20: Vulnerability Scanning & Exploitation

- ♦ Introduction to Nmap, Nessus, OpenVAS
- ♦ Hands-on: Scanning Networks for Vulnerabilities
- ♦ Exploitation Basics with Metasploit

#### Week 21-22: Web Application Security

- ♦ Common Web Attacks (SQL Injection, XSS, CSRF)
- ♦ Hands-on: Testing Web Apps with Burp Suite & OWASP ZAP

#### Week 23-24: Digital Forensics & Incident Response

- ♦ Introduction to Forensics Tools (Autopsy, FTK)
- ♦ Hands-on: Investigating a Cyber Attack