

# 5 Months Cyber Security with Malware Analysis Program

*From Beginner to Web Security Expert*

– *Designed for Students & Beginners*

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## **Course Overview**

Start your journey in Cyber Security from scratch and build real-world skills step by step. This program is designed to take you from **basic concepts to advanced web security**, with practical exposure and industry-relevant tools.

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## **Month 1 – Foundations (Cyber Security + Linux)**

### **Week 1 – Cyber Security Basics**

- **Introduction to Cyber Security**  
Understand the digital world, threats, and why security is critical today.
  - **Types of Hackers & Attacks**  
Learn how different attackers operate and common real-world threats.
  - **Core Security Principles (CIA Triad)**  
Build a strong foundation with essential security concepts.
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### **Week 2 – Linux Essentials**

- **Introduction to Linux (Kali Linux)**  
Set up the most widely used OS in cyber security.
  - **Basic Commands & Navigation**  
Learn how to control and manage systems through terminal.
  - **User & Permission Management**  
Understand access control and system security basics.
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### **Week 3 – Linux + Networking Intro**

- **Process & Package Management**  
Manage running applications and install security tools.
- **Networking Commands**  
Learn how systems communicate in a network environment.
- **Shell Basics**  
Improve efficiency using command-line operations.

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## **Week 4 – Networking Fundamentals**

- **OSI & TCP/IP Models**  
Understand how data travels across networks.
- **IP Addressing & Subnetting**  
Learn how devices are identified and connected.
- **Ports & Protocols**  
Explore real-world protocols like HTTP, FTP, SSH.

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## **Month 2 – Networking + Attacks + Defense**

### **Week 5 – Network Practical Concepts**

- **DNS & DHCP Working**  
Understand domain resolution and IP allocation.
- **Packet Flow Analysis**  
Learn how data moves between systems.
- **Wireshark Basics**  
Capture and analyze network traffic.

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### **Week 6 – Network Attacks**

- **ARP Spoofing**  
Learn how attackers intercept network traffic.
- **Man-in-the-Middle (MITM)**  
Understand real-world interception techniques.
- **DoS Attack Basics**  
Explore how servers are overwhelmed and disrupted.

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### **Week 7 – Wireless Security**

- **Wi-Fi Security & Encryption**  
Understand WPA2/WPA3 and secure configurations.
- **Deauthentication Attack**  
Learn how attackers disconnect users from networks.
- **Evil Twin Attack**  
Simulate fake Wi-Fi attacks used in real scenarios.

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### **Week 8 – Network Defense**

- **Firewall Configuration**  
Control and secure network traffic effectively.
  - **IDS/IPS (Snort)**  
Detect and prevent cyber attacks in real time.
  - **Log Analysis**  
Identify suspicious activities using system logs.
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## **Month 3 – Web Security (High Demand Skills)**

### **Week 9 – Web Fundamentals**

- **How Websites Work**  
Understand client-server architecture.
  - **HTTP & HTTPS**  
Learn secure vs insecure communication.
  - **Cookies & Sessions**  
Explore authentication and session handling.
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### **Week 10 – Web Attacks (Part 1)**

- **Cross-Site Scripting (XSS)**  
Learn how attackers inject malicious scripts.
  - **SQL Injection (SQLi)**  
Understand database exploitation techniques.
  - **Authentication Vulnerabilities**  
Identify weak login systems and bypass flaws.
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### **Week 11 – Web Attacks (Part 2)**

- **CSRF Attack**  
Perform unauthorized actions on behalf of users.
  - **File Upload Vulnerabilities**  
Exploit insecure file handling systems.
  - **IDOR**  
Access unauthorized data due to poor controls.
  - **Os command execution**  
Access OS commands to get data from web
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### **Week 12 – Tools + Real-World Project**

- **Burp Suite**  
Intercept, analyze, and modify web requests.
- **Directory Bruteforcing**  
Discover hidden endpoints and admin panels.
- **Final Project + Report Writing**  
Perform full website testing and create a professional report.

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### **Week 13 – Malware Basics**

- Malware introduction + types
- Real-world attack understanding & lifecycle

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### **Week 14 – Lab Setup**

- Safe malware lab (VMware / VirtualBox)
- Tools setup + isolation techniques

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### **Week 15 – Static Analysis (Basic)**

- File info, strings extraction
- Hashing & basic identification

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### **Week 16 – Static Analysis (Advanced)**

- PE structure deep dive
- Packers & obfuscation

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### **Week 17 – Dynamic Analysis (Basic)**

- Behavior monitoring
- Process, file, registry tracking

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### **Week 18 – Dynamic Analysis (Advanced)**

- Network traffic analysis (C2)
- Tools: Wireshark, Procmon

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### **Week 19 – Debugging & Reverse Engineering**

- x64dbg basics
  - Malware/crackme analysis
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### **Week 20 – Reporting & Final Project**

- Professional report writing
- Real-world malware case study