

Module 1: Foundations of Cybersecurity

1. What is Cybersecurity?
2. The CIA Triad: Confidentiality, Integrity, and Availability
3. Brief History of Cybersecurity
4. Current Cybersecurity Landscape

Module 2: Understanding Cyber Threats

1. Types of Cyber Attacks
 - Malware (viruses, worms, trojans, ransomware)
 - Phishing and Social Engineering
 - Denial of Service (DoS) and Distributed Denial of Service (DDoS)
 - Man-in-the-Middle Attacks
2. Threat Actors and Their Motivations
3. Common Vulnerabilities and Exposures (CVE)

Module 3: Basics of Networking

1. Introduction to Computer Networks
2. OSI Model and TCP/IP Suite
3. IP Addressing and Subnetting
4. Common Network Protocols
5. Network Security Fundamentals

Module 4: Security Technologies and Tools

1. Firewalls and Intrusion Detection/Prevention Systems (IDS/IPS)
2. Antivirus and Anti-malware Software
3. Virtual Private Networks (VPNs)
4. Encryption Technologies
5. Multi-Factor Authentication (MFA)

Module 5: Information Security Practices

1. Password Security and Management
2. Safe Browsing Habits
3. Email Security

4. Mobile Device Security
5. Social Media Security

Module 6: Introduction to Cryptography

1. Basic Concepts of Cryptography
2. Symmetric vs. Asymmetric Encryption
3. Hashing and Digital Signatures
4. Public Key Infrastructure (PKI)

Module 7: Security Policies and Compliance

1. Importance of Security Policies
2. Overview of Common Security Standards (e.g., ISO 27001, NIST)
3. Data Protection Regulations (e.g., GDPR, CCPA)
4. Incident Response and Disaster Recovery Basics

Module 8: Ethical Hacking and Penetration Testing

1. Introduction to Ethical Hacking
2. Penetration Testing Methodology
3. Basic Tools for Security Testing
4. Responsible Disclosure

Module 9: Cloud Security Fundamentals

1. Introduction to Cloud Computing
2. Cloud Service Models (IaaS, PaaS, SaaS)
3. Cloud Security Challenges
4. Best Practices for Secure Cloud Usage

Module 10: Career Paths in Cybersecurity

1. Overview of Cybersecurity Job Roles
2. Essential Skills for Cybersecurity Professionals
3. Certifications and Continuous Learning
4. Building a Personal Learning Plan

Final Project

Develop a basic cybersecurity plan for a small business or personal use, incorporating the concepts learned throughout the course.