Module 0: Cybersecurity course page

Course outline:

Levels:

- **Physical**: wired and wireless networks, fiber networks-how do they work, how are they vulnerable
- **Logical**: How does information pass through these networks: protocols, transport, machine to machine communications, malware, hacking, code, operating systems, firewalls, DDos
- **Social/Human:** vulnerabilities, social engineering, spoofing, digital forensics, phishing

Test cases:

- Stuxnet
- zero day exploits
- cryptography
- botnets

Tools:

- Terminal
- Wireshark
- IPnet monitor

"Writing code itself is useless, but learning system architecture will turn you into a genius" - Matthew Wiecking

1. create ethernet cable, testing, diagnosis, tracking tools
2. sniff wired network
3. compare with fiber (optical) IR cable sniffing
4. wireless contrast-sniffing
5. packets
6. TCP/IP conversations
7. capture, decoding PCAP
8. locate, watch, attack
9. simple: DDOS
10. advanced: FTP vs. SFTP
11. encryption of traffic
12. VPN-truly safe?
13. LAN VPN?
14. secure web traffic: http vs. https
15. protocols, ports
16. firewalls: block doors, burglar example
17. SPI: stateful packet inspection: http vs https
18. content filtering: ad blocking (simple)
19. platforms: pi, laptop, desktop, server
20. hardware
21. OS options: mac, windows, linux
22. linux deep dive: file structures, permissions
23. linux tools: Kali linux
24. social engineering: internal vs. external vulnerabilities

Course Description:

This course introduces students to the fundamentals of cybersecurity through interactive activities, real-world case studies, and hands-on labs. Students will learn how to stay safe online, understand how cyberattacks work, and explore careers in cybersecurity. The course builds critical thinking, ethical awareness, and technical confidence using both unplugged and online tools.

Course Objectives:

- - Understand the core principles of cybersecurity (confidentiality, integrity, availability)
- - Identify different types of cyber threats and attacks
- - Practice safe online behaviors and password hygiene
- - Explore ethical hacking and digital forensics
- - Learn about network security, cryptography, and firewalls
- - Investigate career paths in cybersecurity

https://cybersecurityguide.org/resources/cybersecurity-101/

Essential skills:

- spotting phishing-email headers-create PSA for HPA
- domain names-why do you need to know these?
- How filters work
- How MFA works-weaknesses, hacks
- https://cybersecurityguide.org/resources/phishing/
- DNS attacks: Starbucks example MIM attacks
- https://github.com/farhanashrafdev/90DaysOfCyberSecurity

- Cybersecurity course page
- Module 1.1: ethernet cables
- Module 1.2: terminal commands, network scanning
- Module 1.3: cyberchallenge #1: networks
- Module 2.1: files and navigation
- Module 3.1: routers and firewalls
- Module 3.2: cyberchallenge #2: router setup
- Module 4.1: wireless scanning
- Module 4.2: rogue wifi challenge
- Module 4.3: cyberchallenge #3: wireless networks
- Module 5.1: network security: pentesting, VPNs
- Module 5.2: encryption and protocols
- Module 5.3: wireshark challenge
- Module 6.1: C-I-A and the cybersecurity "kill cycle"
- Module 6.2: stuxnet and zero day attacks
- Module 6.3: passwords
- Module 6.4: digital privacy

Additional migrated files

Files present in the Apple export but not embedded in a page:

- Download Screenshot 2025-08-20 at 4.06.53 PM.png (image/png, 1.9 MB)
- Download Screenshot 2025-08-26 at 3.49.09 PM.png (image/png, 61.8 KB)
- Download Take Control of Your Wi-Fi Security (1.7).pdf (application/pdf, 1.4 MB)
- Download Take Control of Your Online Privacy (5.1).pdf (application/pdf, 2.5 MB)
- Download Take Control of Your Online Privacy (5.1).pdf (application/pdf, 2.5 MB)
- Download Take Control of Your Online Privacy (5.1).pdf.zip (application/pdf, 2.1 MB)
- Download server_https.py (text/x-python-script, 965 B)
- Download Take Control of Golden Gate (1.0).pdf (application/pdf, 2.0 MB)
- Download Take Control of iOS 27 and iPadOS 27 (1.0).pdf (application/pdf, 3.4 MB)

Migrated from Apple Server Wiki. Original page ID: q6h4d9q

Revision #3
Created 2026-09-29 15:59:52 UTC by Admin
Updated 2026-09-29 16:49:12 UTC by Admin