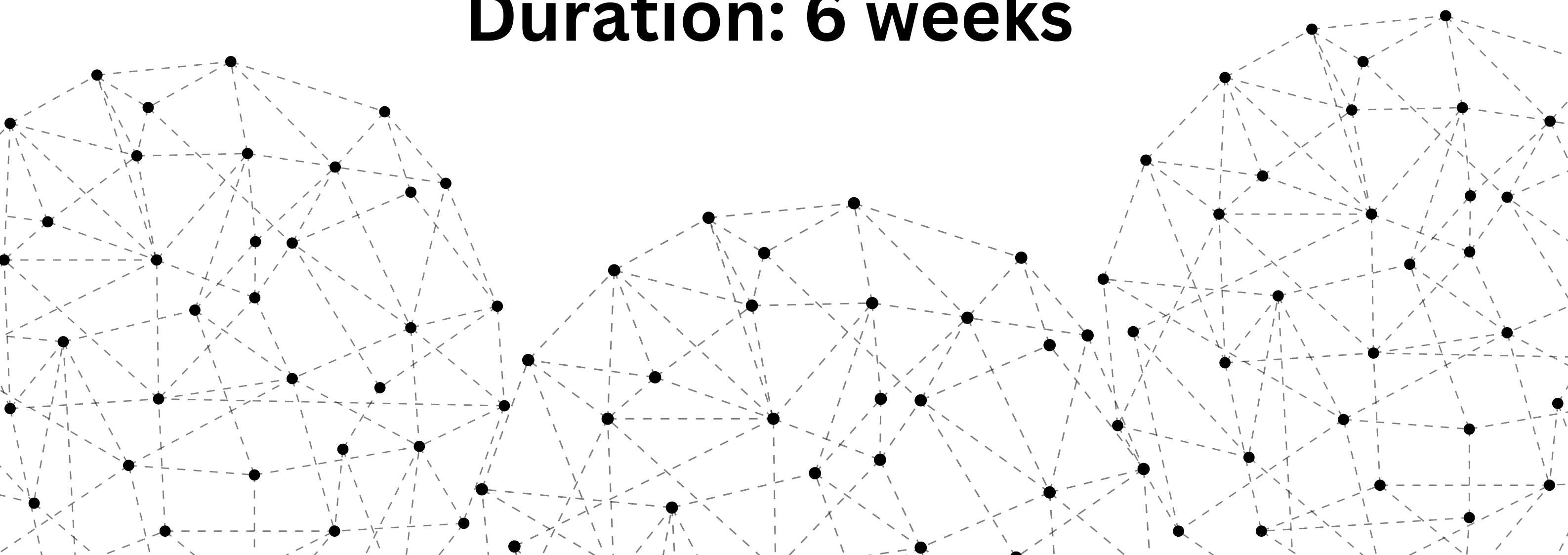


NATIONAL INSTITUTE OF ELECTRONICS AND INFORMATION TECHNOLOGY, PATNA

SUVIKSAN TECHNOLOGIES PRIVATE LIMITED

Syllabus

Course : Foundation of Cyber Security,
Duration: 6 weeks



Week 1: Introduction to Cybersecurity and ethical hacking

- o Understand the need for cybersecurity in today's digital world
- o Learn about black hat, white hat, and grey hat hackers
- o Ethical hacking fundamentals, principles, and laws
- o Introduction to threat landscapes & attack vectors

Week 2: Networking Fundamentals for Ethical Hacking

- o OSI and TCP/IP models
- o IP addressing, DNS, and MAC addressing
- o Basics of routers, switches, and firewalls
- o Protocols: HTTP, HTTPS, FTP, SMTP, ARP, ICMP, etc.

Week 3: Introduction to Footprinting and Reconnaissance

- o Passive vs. active information gathering
- o WHOIS lookup, DNS interrogation
- o Google Dorking, social engineering intro
- o Tools: Maltego, Recon-ng, TheHarvester, etc.

Week 4: Scanning and Enumeration Techniques

- o Network scanning using Nmap, Masscan, and Zenmap
- o Port scanning and vulnerability scanning
- o Banner grabbing and OS detection
- o Enumeration techniques (NetBIOS, SNMP, SMB)

Week 5: System and Network Exploitation + Wireless Attacks

- o Introduction to exploitation tools like Metasploit
- o Vulnerability exploitation on Windows & Linux
- o Basics of wireless hacking (Wi-Fi password cracking, WPA/WPA2)
- o Aircrack-ng suite & Evil Twin attacks

Week 6: Web Application Security Fundamentals, Remediations & Reporting

- o OWASP Top 10 vulnerabilities explained (XSS, SQLi, CSRF, etc.)
- o Hands-on with Burp Suite and DVWA
- o Reporting & documenting findings professionally
- o Mitigation techniques & secure coding practices

(Note: Points mentioned are just short summary, but they consist of a lot of subtopics and detailed structure with practical scenarios)