

CYBER SECURITY (CS) SYLLABUS COPY

Engineered for skill enhancement.



PROGRAM HIGHLIGHTS

Accredited Certificates :

- ✓ Program approved ISO Certification

Internships :

- ✓ Industry-relevant opportunities provided-

Placement Assistance :

- ✓ Career guidance from industry experts-

Basic to Advanced Level Training :

- ✓ Learn from experienced AI professionals .

Live & Recorded Lectures :

- ✓ Flexible learning at your convenience .

Real-Time Projects :

- ✓ Hands-on minor & major projects



ABOUT US

- **OUR MISSION :**

Nxt Sync is a pioneering EdTech company committed to bridging the gap between theoretical learning and practical application. Our mission is to empower students with cutting-edge AI skills that enhance employability and prepare them for a tech-driven future.

- **OUR VISION--UPSKILL:** Empowering minds for the future.
- **INNOVATE:** Fostering creativity and breakthroughs .
- **EXCEL:** Preparing industry-ready professionals.

WHY CYBER SECURITY?

- High Demand for Cyber Security Experts
- Protection Against Cyber Threats & Attacks
- Ensuring Data Privacy & Compliance
- Competitive Salaries & Career Growth
- Industry-Wide Applications (Banking, Healthcare, IT, etc.)
- Ethical Hacking & Security Analysis
- Preventing Cybercrime & Digital Fraud



LEARNING PATH

- Introduction to Cyber Security
- Networking & Security Fundamentals
- Ethical Hacking Essentials
- Threat Intelligence & Risk Management
- Cryptography & Encryption Techniques
- Web Application & Network Security
- Cloud Security & Secure DevOps
- Cyber Law, Compliance & Governance
- Penetration Testing & Vulnerability Assessment
- Security Operations & SIEM Solutions
- Capstone Projects & Industry Case Studies



DETAILED MODULE BREAKDOWN

Module 1: Introduction to Cyber Security

- Evolution of Cyber Security & Importance
- Types of Cyber Attacks & Security Measures
- Cyber Security Frameworks & Best Practices

Module 2: Networking & Security Fundamentals

- Networking Basics (TCP/IP, OSI Model)
- Firewalls, VPNs, IDS & IPS
- Securing Network Protocols



Module 3: Ethical Hacking Essentials

- Ethical Hacking vs. Malicious Hacking
- Kali Linux & Ethical Hacking Tools
- Penetration Testing Basics

Module 4: Threat Intelligence & Risk Management

- Identifying & Mitigating Cyber Threats
- Cyber Risk Assessment & Management
- Security Information & Event Management (SIEM)

Module 5: Cryptography & Encryption Techniques

- Symmetric & Asymmetric Encryption
- Hashing, Digital Signatures & PKI
- SSL/TLS & Secure Communications



Module 6: Web Application & Network Security

- OWASP Top 10 & Web Security Best Practices
- SQL Injection, Cross-Site Scripting (XSS)
- Securing APIs & Web Services

Module 7: Cloud Security & Secure DevOps

- Cloud Security Fundamentals (AWS, Azure, GCP)
- DevSecOps & Secure Coding Practices
- Identity & Access Management (IAM)

Module 8: Incident Response & Digital Forensics

- Cyber Incident Handling & Response Strategies
- Forensic Investigation Tools & Techniques
- Malware Analysis & Reverse Engineering



Module 9: Cyber Law, Compliance & Governance

- Data Protection Laws (GDPR, HIPAA, PCI-DSS)
- Cyber Ethics & Responsible Security Practices
- Compliance Frameworks & Audits

Module 10: Penetration Testing & Vulnerability Assessment

- Web & Network Penetration Testing
- Common Vulnerabilities & Exploit Mitigation
- Red Team vs. Blue Team Strategies

Module 11: Security Operations & SIEM Solutions

- Security Monitoring & Threat Hunting
- Implementing SIEM (Splunk, ELK, IBM QRadar)
- Automating Security Workflows

Module 12: Capstone Projects & Industry Case Studies

- Hands-on Cyber Security Projects
- Real-World Case Studies (Banking, E-commerce, Government)
- Industry Collaboration & Research-Based Projects



ASSIGNMENT'S & ASSESSMENTS

- **Weekly hands-on assignments**
- **Mid-term AI mini-projects**
- **Final capstone AI project**
- **Live presentations & discussions**

TOOLS & FRAMEWORKS USED

Ethical Hacking & Penetration Testing

- Kali Linux, Metasploit, Burp Suite, Nmap

Security Monitoring & SIEM

- Splunk, ELK Stack, IBM QRadar

Network & Web Security

- Wireshark, OWASP ZAP, Snort

Cryptography & Forensics

- Hashcat, Autopsy, Volatility

Cloud Security

- AWS Security Hub, Azure Security Center, GCP Security Command Center

RECOMMENDED READING

Cyber Security & Ethical Hacking:

- ☐ "The Web Application Hacker's Handbook" - Dafydd Stuttard & Marcus Pinto
- ☐ "Hacking: The Art of Exploitation" - Jon Erickson
- ☐ "Cybersecurity for Beginners" - Raef Meeuwisse



WHY CHOOSE NXTSYNC?

- ☐ Industry-Aligned CS Curriculum
- ☐ Hands-on Real-World Projects
- ☐ Expert Mentorship & Career Guidance
- ☐ Flexible Learning Schedule
- ☐ ISO-Certified CS Training Program

Start Your CS Journey with NxtSync Today!!!!



THANK YOU

