



## **CYBER SECURITY (CS) SYLLABUS COPY**

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Engineered for skill enhancement.



# PROGRAM HIGHLIGHTS

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## **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

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- **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?

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- 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

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- 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

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## 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

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



# TOOLS & FRAMEWORKS USED

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## 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

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### 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?

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- 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

