Cybersecurity

Understanding Computers and Networks
- Fundamentals of Computer Systems
- Operating System Basics
- Network Protocols and Infrastructure
- Web Technology Basics
- Cloud Computing Basics
- Virtual Machine and Containerization Strategies

Basics of Cryptography
- Historical methods of cryptography
- Encryption Algorithms
- Decryption Techniques
- Public key Infrastructure (PKI)
- Hashing and Digital Signatures
- Secure Socket Layer/Transport Layer Security (SSL/TLS)

Software and Hardware Security
- Security in Coding
- Buffer Overflows and Other Exploits
- Secure Hardware development Life Cycle
- Firmware Security
- IoT Device Security
- Hardware and Peripheral Security

Cybersecurity Frameworks and Standards
- Understanding ISO 27001
- The NIST Framework
- The CIS Top 20 Controls
- Common Criteria Overview
- PCI-DSS for Payment Systems
- GDPR and Data Protection Laws

Vulnerability Assessment
- Basics of Penetration Testing
- Vulnerability Scanning Tools
- Data Analysis of System Logs
- Social Engineering Techniques
- Writing Assessment Reports
- Incident Response and Recovery

Identity and Access Management
- User Identity Verification Methods
- Multi-Factor Authentication
- Role-Based Access Control (RBAC)
- Identity and Access Management Policies
- Biometric Security
- Single Sign On (SSO)

Cyber Threat Intelligence
- Cyber Threat Types and Actors
- Intelligence Gathering Techniques
- Threat Hunting Basics
- Cyber Kill Chain Model
- Threat Analysis and Reporting
- Counterintelligence Strategies

Security Architectures and Design
- Designing Secure Networks
- Secure Development Lifecycle
- Security for various Database Architectures
- Intrusion Detection and Prevention Systems
- Firewalls and Proxy Servers
- Physical Security Measures

Mobile and Wireless Security
- Mobile Device Security Principles
- Wireless Network Security
- Bluetooth Security Measures
- 3G/4G/5G Security
- Mobile App Security
- Mobile Payment System Security

IoT and Cloud Security
- Introduction to IoT
- IoT Device Security
- Cloud Security Concepts
- Security in SaaS, PaaS, and IaaS
- Virtualization Security Considerations
- Application Container Security

Cybersecurity Laws and Regulations
- Understanding GDPR
- U.S. Cybersecurity Laws
- EU Cybersecurity Policy
- PCI-DSS Compliance
- HIPAA for healthcare data
- FISMA for Federal Information Systems

Cybersecurity Risk Management
- Risk Assessment and Management
- Business Continuity Planning
- Disaster Recovery Planning
- Security Policies and Procedures
- Incident Response Planning
- Risk Management Frameworks

Digital Forensics
- Basics of Digital Forensics
- Disk and Memory Forensics
- Network Forensics
- Mobile and IoT Forensics
- Incident data collection and preservation
- Forensics report writing

Professional Ethics in Cybersecurity
- Understanding ethical hacking
- Codes of professional ethics
- Legal and unethical behaviors in Cybersecurity
- Whistleblowing in Cybersecurity
- Privacy considerations in Cybersecurity
- Interaction with law enforcement agencies

Cybersecurity Certifications
- CompTIA Security+
- Certified Ethical Hacker (CEH)
- Certified Information System Security Professional (CISSP)
- Certified Information Security Manager (CISM)
- Certified in Risk and Information Systems Control (CRISC)
- Certified Information Privacy Technologist (CIPT)