Information Technology Security Management

Learning objectives:

1. To understand the security fundamentals, threats and countermeasures.
2. To be able to identify and analyse different techniques used for preventing attacks
3. To gain an insight in the art of Human hacking (social engineering)
4. To identify and analyse various Information security tools and techniques
5. To understand the need for an effective Information Security Policy and monitoring for an organization.

1	**Information Security basics** • Information Security and Safety • Fundamentals of Information System • CIA Triad • Authentication • Threats and Vulnerabilities • Prevention, Detection and Countermeasures	Sohrab
2	**Ethical Hacking** • Black hat , White hat and Gray hat hackers • Ethical Hacking methodology • Information Security Assessment Techniques • Bug Reporting and Vulnerability analysis • Security Patching and Hardening • Cyber attacks	Asif
3	**Social engineering attacks** • Types of SE : (Computer based and non computer based attacks) • Gathering Information to exploit. • Social Engineering Techniques : Evesdropping, Shoulder surfing ,Dumpster diving • Spamming and Adware • Phishing • Ransomware	Sohrab
4	Security tools (Practical) • Tools for individual • Tools for organisation • Tools for Encryption • Purging Files and e-waste • Data Recovery tools	Sohrab
5	IT risk management • Types of information technology risk • Legal Compliances • IT risk management policies and procedures • Business continuity planning • Reducing information technology risks	Asif

6	Security Policy Design • Policy, Guidelines and Procedures(Home and wifi security policy) • Personnel Training and awareness • Security Standards • Access control Methodology • Access Control Implementation	Asif
7	Security frameworks and models • Security Framework • COBIT • OCTAVE	Sohrab
8	Cyber Forensics and Incident handling • Log Analysis Basic • Logging States • Incident Handling • Incident Reporting • Legal aspects	Sohrab
9	Network security and penetration testing • Networking basics • Layer 2 Security • Layer 3 Security • Application Security • Stages of penetration testing • Penetration testing methods	Asif
10	Auditing and monitoring: • Monitoring Introduction • Monitoring Tools and Technique • Threats and Countermeasures • IT Act 2000 • The Cyber Regulations Appellate • ISO 27000 • Impact of ISO 27000 on Information Security Management	Asif