1. Network Security and Symmetric Encryption

Security Trends, The OSI Security Architecture, Security Attacks, Security Services, Security Mechanism, A Model for Internetwork Security, Internet Standards the Internet Society.

Symmetric Encryption Principles, Symmetric Block Encryption Algorithms, Stream Ciphers, Cipher Block Modes of Operation, Location of Encryption Devices, Key Distribution.

2. Public Key Cryptography and Authentication

Approaches to Message Authentication, Secure Hash Functions and HMAC, Public Key Cryptography Principles, Public Key Cryptography Algorithms, Digital Signatures, Key Management.

Kerberos, Public Key Infrastructure.

3. Email and IP Security

Pretty Good Privacy (PGP), S/MIME.

Overview of IP Security, IP Security Architecture, Authentication Header, Encapsulating Security Payload, Combining Security Associations, Key Management.

4. Intrusion

Intruders, Intrusion Detection.

5. Passwords and Firewalls

Password Management,Firewall Design Principles, Trusted Systems, Common Criteria for Information Technology Security Evaluation.