

PESIT Bangalore South Campus

10CS835-INFORMATION AND NETWORK SECURITY

FACULTY: Mrs. Surabhi Agrawal & Ms. Bhuvaneshwari

Total Hours Specified: 52

Objectives

To prepare students of technology to recognize the threats and vulnerabilities in existing systems and to learn to design and develop the secure systems needed in the near future.

There is need of this because as the global networks expand the interconnection of the world's information systems, the smooth operation of communication and computing solutions becomes vital. But frequent events such as virus and worm attacks and the success of criminal attackers shows the weaknesses in current information technologies and the need to provide heightened security for these systems.

Pre-requisites:

A student is expected to know about basics of computer networking with mathematical background.

Lesson Plan

Class #	Unit #& Title	Topic to be covered	% of Portions Covered	
			Reference Chapter	Cumulative
1	Unit : 1 Planning For Security	Introduction, Information Security Policy, Standards and Practices.	11.5%	11.5%
2		The Information Security Blueprint		
3		The Information Security Blueprint Continue..		
4		Contingency Plane and its Model		
5		Contingency Plane and its Model Continue..		
6	Unit: 2 Security Technology -1	Introduction, Physical Design, Firewalls	11.5%	23%
7		Firewalls Continue..		
8		Protecting Remote Connections		

9		Protecting Remote connections		
10	Unit : 3 Security Technology-2	Introduction, Intrusion Detection & Prevention Systems(IDSs & IPSs)	11.5%	34.5%
11		IDSs & IPSs Continue..		
12		Honey Pots, Honey Nets and Padded Cell Systems		
13		Scanning & Analysis Tools		
14		Scanning & Analysis Tools Continue..		
15	Unit : 4 Cryptography	Introduction , History of Cryptography	15.4%	50%
16		Principles of Cryptography		
17		Principles of Cryptography Continue..		
18		Cryptography Tools		
19		Cryptography Tools Continue..		
20		Cryptography Tools Continue..		
21		Attacks on Cryptosystems		
22	Unit : 5 Introduction to Network Security, Authentication Applications	Attacks, Services and Mechanisms	15.4%	65.4%
23		Security Attacks & Services, A model for Internetwork Security		
24		Internet Standards and RFCs		
25		Kerberos		
26		Kerberos Continue..		
27		Kerberos Continue..		
28		X.509 Directory Authentication Service		
29		X.509 Directory Authentication Service Continue..		
30	X.509 Directory Authentication Service Continue..			
31	Unit : 6 Electronic Mail Security	Pretty Good Privacy	11.5%	77%
32		Pretty Good Privacy Continue..		
33		Pretty Good Privacy Continue..		
34		Pretty Good Privacy Continue..		
35		S/MIME		
36		S/MIME Continue..		
37		S/MIME Continue..		
38	Unit : 7 IP Security	IP Security Overview & Architecture	11.5%	88.5%
39		Authentication Header		
40		Authentication Header Continue..		
41		Encapsulating Security Payload		
42		Combining Security Associations		
43		Key Management		
44		Key Management Continue..		
45		Web Security Requirements	11.5%	100%
46		Secure Socket Layer(SSL)		
47		Secure Socket Layer(SSL) Continue..		

48	Unit : 8 Web Security	Transport Layer Security(TLS)		
49		Secure Electronic Transaction		
50		Secure Electronic Transaction Continue..		
51		Previous Papers Discussion		
52		Previous Papers Discussion		

Literature:

Book Type	Title& Author	Publication Information
		Edition
Text Book	Michael E. Whitman and Herbert J. Mattord: Principles of Information Security 2 nd Edition, Cengage Learning, 2005	2 nd
Text Book	William Stallings: Network Security Essentials: Applications and Standards, Pearson Education , 2007.	3 rd