



Faculty of Computer Studies (FoCS)

Course Name: Network Security Testing

(UG/PG): PG

Number of Credits: 2

Level: 3

Learning Objective(s):

The course aims in providing hands on approach to understand the concepts of Network Security Testing. It is one of the most important aspects that need to be considered for implementing security. The course covers the most of the network security practices along with different case problems. It covers the need for network security testing framework and various hands on tools for studying the network security.

Pedagogy:

- Lectures
- Class discussion followed by practical
- Hands-on Lab sessions

Course Outline

Sr. No.	Topic	Hours
1	Introduction to Network Security Testing Concepts, Need for Security, Security Attack, Security Services, Information Security, Methods of Protection, Threats in Networks, Network Security Controls	3
2	Security Issues in TCP/IP – TCP, DNS, Routing, TCP/IP, IPsec, BGP Security, DNS Cache poisoning.	3
3	Defense Tools – Firewalls, Intrusion Detection, Filtering, Distributed Firewalls, Security architecture of World Wide Web, Security Architecture of Web Servers, and Web Clients, Web Application Security – Cross Site Scripting Attacks, Cross Site Request Forgery, Https, Threat Modeling, Attack Surfaces	6
4	Wire and Wireless Network Penetration Testing, Red Team Testing, Vulnerability Assessment, Tools for Network Security Testing	8
5	Web Security Requirements, Secure Socket Layer (SSL), Transport Layer Security (TLS), Secure Electronic Transaction (SET)	3
6	Planning and Enforcing Security Policies: Planning Security Policies, Risk Analysis, Security Policies for an Organization, External Security	3
7	Network Security Audit and Audit Applications, Case Studies Web threats, E-mail threats, Domain controller threats, Extranet and VPN threats.	4

	Total	30
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Books Recommended

1. Kaufman, c., Perlman, R., and Speciner, M., Network Security, Private Communication in a public world, 2nd ed., Prentice Hall PTR., 2002
2. Stallings, W. Network security Essentials: Applications and standards, Prentice Hall, 2000
3. Securing A Wireless Network Chris Hurley SPD.

Suggested Evaluation Methods:

- Lab based Evaluations
- Assignments
- Presentation

Parallel/Similar courses the existing curriculum:

S.No.	Name of the course	Institute where it was offered
1.	Network Penetration Testing	Wayne State University

Name of Member	Prof. Harshad Gune	Dr. Tejaswini Apte			
Designation	Dy. Director	Domain Head			
Org. / Inst.	SICSR	SICSR			
Signature					

Name of the Expert:

Signature:

Date: