



**Faculty of Computer Studies (FoCS)**  
**Sub Committee for Curriculum Development**

*Format to submit syllabus*

**Course Name: Infrastructure Security**

**(UG/PG): PG**

**Number of Credits: 2**

**Level: 3**

**Course Code: T3421**

**Learning Objective(s):**

The objective of this course is to enable the student to understand the concepts of Infrastructure Security and securing the respective Infrastructure by various means of attacks. At the end of the course, the student will be able to understand a variety of generic security threats, analyze particular security problems and thereby apply appropriate security techniques to solve.

**Pedagogy:**

- **Lectures**
- **Discussion**
- **Case studies**
- **Hand-on Practical**

**Pre-learning:**

The students must be aware of the basics of operating systems and networks.

### Course Outline

S.No.	Topic	Hours
1	Building and Implementing a network <ul style="list-style-type: none"> <li>• Create Network by using Switches &amp; Router</li> <li>• Understand Each component Placement</li> <li>• Understand VLAN concept</li> <li>• Create VLAN on Layer 2 Switches</li> <li>• Create VLAN on Layer 3 Switches</li> <li>• Configure Router for routing</li> <li>• Securing Network Devices ( Telnet/SSH/Console/Passwords)</li> <li>• VLAN/VPN &amp; IPV6 Terminologies</li> </ul>	6
2	Security <ul style="list-style-type: none"> <li>• Prepare a security policy, processes, procedures, and their implementation plan</li> <li>• Implement the above policies and plans</li> <li>• Maintain a standardized documentation of the entire IT infrastructure</li> <li>• Periodically test and audit the entire network security (Internet, Intranet and Extranet), update it regularly, and maintain an audit trail of all changes</li> </ul>	7
3	Perimeter Defence <ul style="list-style-type: none"> <li>• Understanding of Firewall/UTM Gateways</li> <li>• Different types of Attacks ; IPS &amp; IDS technique; DLP technique</li> <li>• OS &amp; Application Hardening</li> </ul>	7
4	Host Protection <ul style="list-style-type: none"> <li>• Domain control Policy ; Authentication technique ( LDAP/AD)</li> <li>• End Point Security (Control on USB; Ports ;Wifi etc.)</li> </ul>	5
5	Data/Information Protection <ul style="list-style-type: none"> <li>• Backup &amp; Disaster Management</li> <li>• Backup technique ; Backup Devices</li> <li>• Cloud Backup &amp; In Premise Backup</li> </ul>	5
	<b>Total</b>	30

#### Books Recommended

- Critical Infrastructure Security: Assessment, Prevention, Detection, Response by F. Flammini
- Network Infrastructure Security by Angus Wong , Alan Yeung
- Data Center Fundamentals By Mauricio Arregoces, Maurizio Portolani

**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
<u>1</u>	=	=

Name of Member	Prof. Harshad Gune				
Designation	Dy. Director				
Org. / Inst.	SICSR				
Signature					

Name of the Expert:

Signature:

Date: