



Department of Computer Science and Engineering
National Institute of Technology, Tiruchirappalli

COURSE OUTLINE			
Course Title	Internetworking Protocols		
Course Code	CSPC32	No. of Credits	3
Department	CSE	Faculty	Swathy Murali Mohan
Pre-requisites	CSPC27		
Course Coordinator(s) (if, applicable)	Swathy Murali Mohan		
Teacher(s)/Tutor(s) E-mail	swathimuralimohan@gmail.com	Telephone No.	9496605124
Course Type	Core Course		

COURSE OVERVIEW
This course deals with various network topologies and principles, protocols. It also includes design of layers in OSI and TCP/IP models

COURSE OBJECTIVES
<ul style="list-style-type: none"> To provide insight about networks, topologies, and the key concepts To gain comprehensive knowledge about the layered communication architectures (OSI and TCP/IP) and its functionalities To understand the principles, key protocols, design issues, and significance of each layers in OSI and TCP/IP To know the implementation of various layers

COURSE OUTCOMES	Aligned Programme Outcome (PO)							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
Ability to gain insight about basic network theory and layered communication architectures	S	M	M	B	B	S	B	M

Ability to code and implement MAC protocols, IPv4, IPv6, and TCP	S	B	S	S	M	S	M	M
Ability to design and develop Mobile IP	S	B	S	S	M	S	M	M
Ability to design and develop a communication protocol	S	B	S	S	M	S	M	M

COURSE TEACHING AND LEARNING ACTIVITIES		
Sl. No.	Topic	Mode of Delivery
UNIT - 1		
1	Review of Reference Models	Chalk-Board
2	Topology and switching	Chalk-Board
3	IEEE Standard 802 from Ethernet	Chalk-Board
4	Token Bus	Chalk-Board
5	Token Ring	Chalk-Board
6	Wireless LAN	Chalk-Board
7	Connecting Devices	Chalk-Board
UNIT - 2		
1	IPv4 headers, IP forwarding	Chalk-Board
2	Host Processing of IP datagrams, DHCP and Autoconfiguration	Chalk-Board
3	Firewalls and NAT	Chalk-Board
4	ICMPv4	Chalk-Board
5	IP Fragmentation, DNS	Chalk-Board
6	Broadcasting and Local Multicasting – IGMP	Chalk-Board
7	Routing Protocols	Chalk-Board
UNIT - 3		
1	IPv6 Transition issues, Protocol basics	Chalk-Board
2	Addressing, Options and Extension headers	Chalk-Board
3	ICMPv6	Chalk-Board
4	Neighbor Discovery, Routing	Chalk-Board
5	Autoconfiguration	Chalk-Board
6	Multicast Listener Discovery (MLD)	Chalk-Board
7	Ipv6 and DNS	Chalk-Board
UNIT - 4		
1	Transmission Control Protocol (TCP), TCP Connection Management	Chalk-Board
2	TCP Data Flow	Chalk-Board

3	TCP Window Management	Chalk-Board
4	Stream Control Transmission Protocol (SCTP)	Chalk-Board
5	STCP Services	Chalk-Board
6	SCTP Association management	Chalk-Board
7	SCTP flow and error control	Chalk-Board

UNIT - 5

1	Need for Mobile IP, Overview of Mobile IP	Chalk-Board
2	Details of Mobile IP	Chalk-Board
3	Tunneling	Chalk-Board
4	Mobility for IPv6	Chalk-Board
5	Applications of Mobile IP – Security primer	Chalk-Board
6	Campus Mobility	Chalk-Board
7	Internet wide mobility - A service provider perspective	Chalk-Board
TOTAL		35

COURSE ASSESSMENT METHODOLOGY

Sl. No	Mode of Assessment	Week/Date	Duration	Marks
1	Assessment - 1	5 th week	1 hour	20
2	Assessment - 2	11 th week	1 hour	20
3	Assignment	10 th week		10
4	End Semester Examination	November last week	3 hours	50
Total				100

ESSENTIAL READINGS (Textbooks, Reference books, Websites, Journals, etc.)

Text Books

1. W. Richard Stevens and G. Gabriani, "TCP/IP Illustrated: The Protocols", Pearson, 2011
2. Peter Loshin, Morgan Kaufmann, "IPv6: Theory, Protocol, and Practice", 2nd Ed, 2003
3. James Solomon, "Mobile IP: The Internet Unplugged", 1st Ed, Pearson Education, 2008

Reference Books

1. Kevin R. Fall and W. Richard Stevens, "TCP/IP Illustrated, Vol. 1- The Protocols", 2nd Edition, Addison-Wesley, 2012
2. Silvia Hagen, "IPv6 Essentials, 2nd Edition, O'Reilly Media, 2006
3. Charles E. Perkins, "Mobile IP: Design Principles and Practices", 1st Edition, Pearson Education, 2008

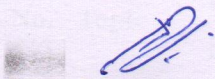
Course Exit Survey

Student feedback form will be collected at the end of the course through MIS

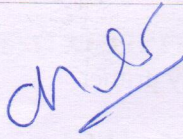
Course Policy

Attendance- Students having 75% to 100% attendance are eligible for writing the End semester Examination. Students having attendance between 65% & 75% with valid reasons can write the end semester exam after attending extra classes. Students having less than 65% have to redo the course. Student should not absent for the assessment. If the reason for absence is genuine, the student can reappear for reassessment.

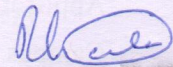
FOR SENATE'S CONSIDERATION



Course Faculty



CC Chairperson



HOD