



Department of Computer Applications National Institute of Technology Tiruchirappalli

1.Course Outline			
Course Title	Computer Networks		
Course Code	CA727		
Department	Computer Applications	No. of Credits	3
Pre-requisites Course Code		Faculty Name	Mr.K.Vignesh
PAC Chairman	Dr.P.J.A Alphonse		
E-mail	vigneshk@nitt.edu	Telephone No.	+91-431-2503730
Course Type	Core Course		

2. Course Overview
<p>This course deals with the major recent developments in Internet & Web . It builds the principles of network and their requirements. It enhances the architecture of Network and their backbones which includes the chances of knowing Lan technology and Lan architecture . It connect through the layers and their working principles to survive the entire world and enters in to server side . Connecting with protocols and standards are mentioning their role in entire network world.</p>

3. Course Objectives
<ul style="list-style-type: none">• To learn the basics of Internet and their terminologies• To learn the various network architectures and protocols are designed• To learn the functions of different layers in line with IEEE standards

4. Course Outcomes (CO)
<p>Student will be able to:</p> <ul style="list-style-type: none">• Establish and Terminate the network setup.• Understand client and mainframe during transmission time• Understand the working principle of Computer Networks.

5. Course Outcome (CO)	Aligned Programme Outcome (PO)											
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12
Explain the principles and the Requirements of Network Architecture and Lan technology	H	L	M									
Use the concepts of Error detection and Error correction and captures the packet flowing in DLL	L	M	H									
Implement Switching, Bridging and Routing specification	M	L	H									
Practice the service of protocols and DNS	M	H	M									

L-Low M-Medium H-High

6. Course Teaching and Learning Activities			
Week	No. of Classes	Topic Covered	Mode of Delivery
1	Class-I	Evolution of Internet- Introduction to web architecture	Chalk and Talk , Power Point Presentation
	Class-II	Building a network- Requirements- Network Architecture	Chalk and Talk
	Class-III	OSI Models	Chalk and Talk
2	Class-I	Internet-Direct Link networks Lan Technology	Chalk and Talk , Power Point Presentation
	Class-II	Lan Architecture	Chalk and Talk , Power Point Presentation
	Class-III	Types of Topology	Chalk and Talk
3	Class-I	Ethernet-Token rings-Wireless networks	Chalk and Talk
	Class-II	Error Detection and Error Correction	Chalk and Talk
	Class-III	Error Detection and Error Correction	Chalk and Talk
4	Class-I	Simulator development in the Data link layer	Chalk and Talk
	Class-II	Switching –Packet switching	Chalk and Talk
	Class-III	Switching and Forwarding	Chalk and Talk
5	Class-I	Bridges and Lan Switches	Chalk and Talk
	Class-II	Internetworking- Simple Internetworking	Chalk and Talk
	Class-III	Routing	Chalk and Talk

6	Class-I	Selective Routing protocol specification	Chalk and Talk
	Class-II	Reliable Byte stream(TCP)	Chalk and Talk
	Class-III	Simple Demultiplexer(UDP)	Chalk and Talk
7	Class-I	TCP Congestion Control	Chalk and Talk
	Class-II	TCP Congestion Control	Chalk and Talk
	Class-III	TCP Congestion Control	Chalk and Talk
8	Class-I	Congestion avoidance mechanisms	Chalk and Talk
	Class-II	Congestion avoidance mechanisms	Chalk and Talk
	Class-III	Steaming Protocol	Chalk and Talk
9	Class-I	Introduction to DNS	Chalk and Talk
	Class-II	Practical Classes with routing and switches through simulator	Chalk and Talk
	Class-III	Working principles of Email	Chalk and Talk
10	Class-I	Benefits of SMTP	Chalk and Talk
	Class-II	MIME-HTTP	Chalk and Talk
	Class-III	SNMP-TELNET-FTP	Chalk and Talk

7. Course Assessment Methods – Theoriey

Sl. No.	Mode of Assessment	Week/Date	Duration	Weightage(%)
1.	Cycle Test –1	4 th week	60 mins	20
2.	Cycle Test –2	8 th week	60 mins	20
3.	Assignment/Seminar	7 th to 10 th week	-	10
4.	End Semester Exam	-	180 mins	50
Total				100

8. Essential Readings (Textbooks, Reference books, Websites, Journals, etc.)

REFERENCES:

1. Behrouz A. Forouzan, "Data Communications and Networking", 4th Edition, McGraw-Hill, 2004
2. William Stallings, "Data and Computer Communications", 9th Edition, Pearson, 2011
3. Larry L. Peterson and Bruce S. Davie, "Computer Networks- A Systems Approach", 5th Edition, Harcourt Asia/Morgan Kaufmann, 2011
4. James F. Kurose and Keith W. Ross, "Computer Networking – A Top Down Approach", 5th Edition, Harcourt Asia/Morgan Kaufmann, 2011

5. Andrew S.Tanenbaum, "Computer Networks", 5th Edition, Prentice Hall PTR,2012

9. Course Exit Survey (mention the ways by which the feedback about the course is assessed and indicate the attainment level)

1. The students through the class rep may give their feedback at any time to the course co-ordinator which will be duly addressed.
2. The students may also give their feedback during Class Committee meeting.
3. 'Course Outcome Survey' form will be distributed on the last working day to all the students and the feedback on various rubrics will be analyzed.
4. The COs will be computed after arriving at the final marks.

10. Course Policy (including plagiarism, academic honesty, attendance, etc.)

- **Plagiarism**

The students are expected to come out with their original code for problems given assignments during the class work, and tests/examinations. If found to copy from internet/other students, zero marks will be assigned and action will be taken.

- **Attendance**

100% is a must. However, relaxation will be given for leave on emergency requirements (medical, death, etc.) and representing institute events. Minimum 75% is required.

- **Academic Honesty**

- i. Possession of any electronic device, if any, found during the test or exam, the student will be debarred for 3 years from appearing for the exam and this will be printed in the Grade statement/Transcript.
- ii. Tampering of MIS records, if any, found, then the results of the student will be withheld and the student will not be allowed to appear for the Placement interviews conducted by the Office of Training & Placement, besides (i).

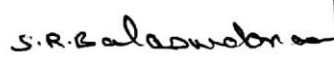
11. Additional Course Information

- The students can get their doubts clarified at any time with their faculty member with prior appointment.

For Senate's Consideration


1. Mr.K.Vignesh
Course Faculty


Dr.P.J.A Alphonse
Class Committee
Chairperson


Dr. S.R. Balasundaram
HOD/CA/NITT