

## CSC-302: Computer Networks

### General Information

Course Number	CSC-302
Credit Hours	3 (Theory Credit Hour = 3, Lab Credit Hours = 1)
Prerequisite	As per course catalog (Recommended: None)
Course Coordinator	Not Specified

### Course Objectives

This is a required course for Computer Science and Software Engineering students. The goal of this course is to introduce the basics computer networks. Students will learn fundamental layered structure, understand common offered layered services, and examine protocols and algorithms used to operate the network.

### Catalog Description

CSC-231

### Course Content

*Note: This calendar is tentative and based on 60 sessions of 1 hours each. The contents may be adjusted subject to availability of sessions, days off and feedback from the students.*

Session No.	Date / Week	Topics	Suggested Readings
01-03	Week 01	<u>Computer Networks and the Internet</u> Internet Network Edge Network Core	Chapter 1
04-06	Week 02	Delays Loss and throughput OSI Stack	Chapter 1
07-09	Week 03	OSI Stack (Contd) Network Under Attack Evolution of Internet	Chapter 1
10-12	Week 04	<u>Application Layer</u> Principles Web and HTTP	Chapter 2
13-15	Week 05	FTP SMTP DNS	Chapter 2
16-18	Week 06	Mid 1	
19-21	Week 07	P2P	Chapter 2
22-24	Week 08	<u>Transport Layer</u>	Chapter 3

		Introduction Multiplexing Connectionless-UDP		
25-27	Week 09	Reliable data transfer		Chapter 3
28-30	Week 10	Connection Oriented TCP Overview of Congestion Control		Chapter 3
31-33	Week 11 & 12	<u>Network Layer</u> Principles IP v4 IP v6		Chapter 4
37-39	Week 13	Mid 2		
40-42	Week 14	Routing in internet Broadcast and multicast		Chapter 4
43-45	Week 15	<u>Link Layer</u> Introduction Error detection and correction Multiple access		Chapter 5
46-48	Week 16	MAC addressing LAN Ethernet		Chapter5
49-51	Week 17	MPLS A day In the Life of Web		Chapter5
52-54	Week 18	Revision Left over Topics		
55-57	Week 19	Terminal Examinations		

### Text Book

1. Kurose & Ross, "Computer Networking: A Top Down Approach", 4th Edition Addison-Wesley, 2007. (Text Book)
2. William Stallings, "Data and Computer Communication", 10<sup>th</sup> edition, Pearson, 2013.

### Reference Material

1. William Stallings, "Data and Computer Communication", 10<sup>th</sup> edition, Pearson, 2013.
2. Peterson and Davie, "Computer Networks: A Systems Approach, 5th edition.
3. Andrew S. Tanenbaum, "Computer Networks", Prentice Hall, 4th Edition, August 2002

### Course Learning Outcomes

1	Understand the Layered Architecture of Computer Networks,
2	Understand the operation of the main components of computer networks,

3	Understand network protocols, standards and algorithms,
4	Acquire the required skills to design simple computer networks, and

### CLO-SO Map

	SO IDs											
CLO ID	<u>GA1</u>	GA2	<u>GA3</u>	GA4	<u>GA5</u>	GA6	<u>GA7</u>	<u>GA8</u>	GA9	GA10	GA11	GA12
CLO 1	-											
CLO 2	-											
CLO 3	-							-				
CLO 4			-		-							
CLO 5							-	-				

### Approvals

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Approved By	Not Specified
Last Update	22/1/2022