Course	CSE330 Computer Networks	Semester	Winter Semester 2026
Faculty Name(s)	Susanta Tewari	Contact	susanta.tewari@ahduni.edu.in
School	SAS	Credits	3
GER Category:	Not Applicable	Teaching Pedagogy Enable:NO	P/NP Course: Can not be taken as P/NP

Schedule

Section 1	02:30 pm to 04:00 pm	Thu	05-01-26 to 19-04-26
	02:30 pm to 04:00 pm	Tue	05-01-26 to 19-04-26

Prerequisite

CSC100 Introduction to Computer Programming
OR
CSE100 Fundamentals of Computer Programming
OR
ENR106 Introduction to Programming

Antirequisite

Not Applicable

Corequisite

Not Applicable

Course Description

This is a first course on computer networks. The course will introduce the fundamentals of computer networking and a number of protocols. The course introduces the layered protocol architecture concept and discusses physical, data link, network, transport and application layers. It describes the functionalities of these layers as well as the main protocols pertaining to these layers. The course emphasizes the architecture and protocols used in the Internet. It also introduces wireless networks, cloud computing, Internet of Things, network security and software defined networking. The programming component will be covered in a companion laboratory course

Course Objectives

- Knowledge of how computer networks are designed and operated
- Knowledge of the architecture of the Internet and its protocols

Learning Outcomes

After studying this course, the students will be able to

- understand the design issues of computer networks and appreciate layered architecture and protocol design
- use appropriate tools for designing and implementing networked systems
- design network applications

Pedagogy	Lectures, demonstrations and interactions
Expectation From Students	Expectations from students: 1. Read the relevant portions of the textbook about the topic at hand for every session beforehand. 2. Take notes. 3. If a session is missed, take assistance of a fellow student to know the missed materials before attending the next session.

Assessment/Evaluation	• Mid-Semester Examination:
	  ◦ Mid Sem Examiniation - 30%
	• End Semester Examination:
	  ◦ Final exam - 40%
	• Other Components:
	  ◦ Quiz - 30%

Attendance Policy	As per Ahmedabad University Policy. 80% attendance is compulsory for course evaluation
Project / Assignment Details	• Quizzes (2): 30% • Mid semester examination: 30% • End semester examination: 40% Make-up evaluation is NOT allowed for any component.
Course Material	Text Book(s) • Computer Networks: A Systems Approach, Peterson and Davie, Fifth Edition, MK, Other Course Material • *Unix Network Programming, Vol. 1: The Sockets Networking API*, Stevens, Fenner and Rudoff, 3rd edition, Addison-Wesley Professional, 2003 ,
Additional Information	

Session Plan

NO.	TOPIC TITLE	TOPIC & SUBTOPIC DETAILS	READINGS,CASES,ETC.	ACTIVITIES	IMPORTANT DATES
1	Introduction, C review	N/A	1.1-1.2	N/A	
2	Network architecture, Sockets	N/A	1.3-1.4	N/A	
3	Performance, Multimedia data	N/A	1.5, Chap 7	N/A	
4	Physical layer, bit encoding	N/A	2.1-2.2	N/A	
5	Framing, error detection	N/A	2.3-2.4	N/A	
6	Reliable transmission	N/A	2.5	N/A	
7	Ethernet	N/A	2.6	N/A	
8	Wi-Fi, Bluetooth, Cellular networks	N/A	2.7	N/A	
9	Quiz, Cloud computing, Internet of Things	N/A	Page 57, 150	N/A	
10	Switching	N/A	3.1	N/A	
11	Switching	N/A	3.1	N/A	
12	IP	N/A	3.2.1-3.2.5	N/A	
13	Internetworking	N/A	3.2.6-3.2.9, 9.3.1	N/A	
14	Mid-term exam			N/A	
15	Routing, distance vector routing	N/A	3.3.1-3.3.2	N/A	
16	Link state routing, AODV, DSR, BATMAN	N/A	3.3.3-3.3.4	N/A	

17	BGP	N/A	4.1.1-4.1.2, 3.4	N/A	
18	iBGP			N/A	
19	Router design	N/A	4.2	N/A	
20	Switching fabric, lookup	N/A	4.2	N/A	
21	Transport layer, UDP	N/A	4.3	N/A	
22	TCP	N/A	4.4, 4.1.3	N/A	
23	Congestion control	N/A	5.1, 5.2	N/A	
24	Congestion avoidance	N/A	5.1, 5.2	N/A	
25	Quiz	N/A	5.4	N/A	
26	Resource allocation, queuing	N/A	6.1, 6.2	N/A	
27	Quality of service	N/A	6.3, 6.4		
28	Security	N/A	6.5		
29	Review				
30	Final exam				