University of Engineering and Technology Lahore
Course Outline Report
Subject: CSC-203 Computer Networks

Course Description

Introduction and protocols architecture, basic concepts of networking, network topologies, layered architecture, physical layer functionality, data link layer functionality, multiple access techniques, circuit switching and packet switching, LAN technologies, wireless networks, MAC addressing, networking devices, network layer protocols, IPv4 and IPv6, IP addressing, subnetting, CIDR, routing protocols, transport layer protocols, ports and sockets, connection establishment, flow and congestion control, application layer protocols, latest trends in computer networks.

Measurable Student Learning Outcomes

CLOs	Description	PLOs	Domain	Domain Level
CLO1	Explain fundamental networking concepts, architectures, and the roles of OSI and TCP/IP layers.	PLO-1	Cognitive	2. Understand
CLO2	Analyze network protocols based on network performance requirement at application and transport layers.	PLO-3	Cognitive	4. Analyze
CLO3	Apply IP addressing, subnetting, and routing principles to solve communication problems at network and datalink layers.	PLO-2	Cognitive	3. Apply

Tentative Weekly Lecture Plan

Week	Topics	CLO(s)
1	What Is the Internet? A Nuts-and-Bolts Description A Services Description What Is a Protocol? The Network Edge The Network Core Delay, Loss, and Throughput in Packet-Switched Networks	1
2	Protocol Layers and Their Service Models Networks Under Attack History of Computer Networking and the Internet	1
3	Application layer	2

	Principles of Network Application The Web and HTTP	
4	Web Cache Electronic Mail in the Internet, SMTP File Transfer: FTP (using TCP)	2
5	DNS Transport Layer Services Multiplexing and Demultiplexing	2
6	Principles of Reliable Data Transport, TCP Principles of Congestion Control, TCP Congestion Control	2
7	Network Layer: Virtual Circuits and Datagram Networks, Inside a Router Details of the Internet	3
8	IP Subnetting and design of wide area network	3
9	Mid-Term	
10	Details of the Internet Protocol (IP)	3
11	Routing Algorithms: Link State, Distance Vector	3
12	Routing in the Internet Routing Information Protocol (RIP) Open Shortest Path First (OSPF)	3
13	Border Gateway Protocol (BGP)	3
14	Link Layer Error Detection and Correction Multiple Access Protocols	3
15	Network Devices at link layer switches, switch learning, campus area networks VLANs	3
16	Multiprotocol Label Switching (MPLS)	3
17	Revision	1, 2, 3