Course outlines
University of South Asia
Department of CSE

Course Outline (Fall 2020)

Computer Networks
MCS631

Course Teacher:	Md. Ashraful Islam, Associate Professor, Dept. of CSE Cell #0088-01712-516838 Email:ashraful47@yahoo.com, Class Hours: Friday4.0-5.30 pm
Compulsory Text(s):	1. "Computer Networks", 5th edition, by Tanenbaum and Wetherall, Prentice Hall, 2011. ISBN-13: 978-0- 13- 212695- 3
Reference Text(s):	Any suitable and available book on Computer Networks
Learning Objectives	At the end of this course, the successful student will be able to: 1. Uses analytical models to predict and control and networking components and processes behaviors. 2. Uses engineering knowledge to solve real world open-ended engineering problems. Uses the specialized core engineering knowledge in the field of computer networks to understand and design a various types of communication links and networks. 3. Uses the specialized core engineering knowledge in the field of computer networks to understand and design a various types of communication links and networks. 4. Generate solutions for complex engineering design problems. 5. Demonstrates iterative design process in complex engineering projects. 6. Writes and revises documents using appropriate discipline specific conventions. 7. Demonstrates confidence in oral communications and explains and interprets results clearly.
Course Organization	1.5 hours of lecture per week for 12 weeks

Course Content

Week	Hours	Chapters / Section	Topic, description
1	1.5	Chapter 1	Introduction: OSI and TCP/IP layer architecture models. The Transport Layer: TCP and UDP.
2	1,5	Section 3.1	Framing and clock synchronization: HDLC, USB and Ethernet.
3	1.5	Section 3.3	Error Detection Coding and Error-Control service.
4	1.5	Section 3.4	Error Control Protocols: Stop-and-Wait Protocol, Go-back-n Protocol Selective Repeat Protocol, HDLC.
5	1.5	Section 4.3-	CT and LAN Switching and Spanning Tree Protocol.

6	1.5		Mid-term Test (1.5 hours).
7	1.5	Section 4.8	Local Area Networks (LANs): CSMA/CD, Ethernet.
8	1,5	Section 4.4	Virtual LAN. Wireless LAN.
9	1,5	Sections 5.5.1, 5.5.2, 5.6.1 and 5.6.2	IP: IP datagram format and IP addressing.
10	1,5	Section 5.6.2 Sections 5.6.3, 5.6.4 7.1	Subnetting and supernetting. IP related protocols: ARP, DNS, IPv6.
11	1,5		CT and Revision for Final exam
12			Final exam