8 LO(s)

1	CLO1	Trace the evolution of networks and identify the key concepts and functions that form the basis for layered architecture
2	CLO2	Explain fundamental concepts in digital communication, and focus on error control techniques that include parity check, polynomial code, and Internet checksum
3	CLO3	Describe peer-to-peer protocols and local area networks, how does a peer-to-peer protocol deliver reliable data transfer service across unreliable transmission lines or networks
4	CLO4	Describe how medium access control protocols coordinate the access to the communication channel so that information gets through from a source to a destination in the same broadcast local area network
5	CLO5	Describe packet networks from two perspectives, concerned with services that the network provides to the transport layer that operates above it at the end systems
6	CLO6	Describe addressing and routing procedures, as well as congestion control inside the network.
7	CLO7	Explaine how IP enables communications across a collection of networks, hierarchical structure of IP addresses and explain their role in ensuring scalability of the Internet
8	CLO8	Explain role of address prefixes and the uses of masks, TCP three-way handshake, flow control, and congestion control, Multicast, SDN and security

Download All Student Material

1	Fundamentals of Network Communication: - Communication Networks and Services - Layered Architecture - Socket API & Digital Transmissions Offline 1: Guide learning & Introduce the spec	Offline,Online	LO1				Complete Week 1, 2, 3 of Fundamentals of Network Communication All Students should participate in review slot (if any question)	
2	Fundamentals of Network Communication: - Error Control - Course Project Offline 2: Course 1 review	Offline,Online	LO1, LO2				Complete Week 4, 5 of the Fundamentals of Network Communication - Deadline of Course 2 Completion: End of Friday of the week. - All Students should participate in review slot (if any question)	
3	Peer-to-Peer Protocols and Local Area Networks - Peer-to-Peer Protocols - Reliable Services and Data Link Controls	Online	LO3				Complete Week 1, 2 of the course Peer-to-Peer Protocols and Local Area Networks	
4	Peer-to-Peer Protocols and Local Area Networks - Medium Access Control - Local Area Networks	Online	LO4				Complete Week 3 and a part of week 4 of the course Peer-to-Peer Protocols and Local Area Networks	
5	Peer-to-Peer Protocols and Local Area Networks - Local Area Networks - Course Project Offline 3: Course 2 review	Offline,Online	LO3, LO4				Complete Week 4,5 of the course Peer-to-Peer Protocols and Local Area Networks - Deadline of Course 2 Completion: End of Friday of the week. - All Students should participate in review slot (if any question)	
6	Packet Switching Networks and Algorithms - Frame Switching and Packet Switching	Online	LO5				Complete Week 1 of the course Packet Switching Networks and Algorithms	
7	Packet Switching Networks and Algorithms - Routing in Packet Networks - Shortest-Path Routing	Online	LO6				Complete Week 2,3 of the course Packet Switching Networks and Algorithms	

8	Packet Switching Networks and Algorithms - Traffic Management - Course Project - Packet Switching Networks and Algorithms Offline 4: Course 3 Review	Offline,Online	LO5, LO6					Complete Week 4, 5 of the course Packet Switching Networks and Algorithms - Deadline of Course 3 Completion: End of Friday of the week. - All Students should participate in review slot (if any question)	
9	TCP/IP and Advanced Topics - The Internet Protocol (IP)	Online	LO7					Complete Week 1 of the course TCP/IP and Advanced Topics	
10	TCP/IP and Advanced Topics - IP Addressing - Transmission Control Protocol	Online	LO7					Complete Week 2, 3 of the course TCP/IP and Advanced Topics	
11	TCP/IP and Advanced Topics - Advanced Topics	Online	LO7, LO8					Complete Week 4 of the course TCP/IP and Advanced Topics	
12	TCP/IP and Advanced Topics - Course Project Offline 5: Course 4 Review	Offline,Online	LO7, LO8					Complete Week 5 of the course TCP/IP and Advanced Topics - Deadline of Course 4 Completion: End of Friday of the week. - All Students should participate in review slot (if any question)	

0 Constructive question(s)

2 assessment(s)

PE	final exam	1	50.0%	4	120'				All studied courses.	by Exam Board	Customized from the exercises of this specialization. 1st Evaluation (exam): For students who completed & got Coursera's specialization certificates (Option at week 10 or 11); 2nd Evaluation (exam): For students who completed & got Coursera's specialization certificates) at week 13; 3rd Evaluation (re-exam): For students who completed & got Coursera's specialization certificates) at week 14.
TE	final exam	1	50.0%	4	60'		Computer gradable	50	All studied courses. Each module of course contributes 2-3 questions.	by Exam Board	Customized from the quizzes of this specialization. 1st Evaluation (exam): For students who completed & got Coursera's specialization certificates (Option at week 9); 2nd Evaluation (exam): For students who completed & got Coursera's specialization certificates) at week 13; 3rd Evaluation (re-exam): For students who completed & got Coursera's specialization certificates) at week 14.