جامعة الشرقية
A' SHARQIYAH UNIVERSITY

Course Descriptor
INTE207 Computer Networks I

ACADEMIC YEAR	2020-2021		
Course Code & Title	INTE207 Computer Networks I		
Credit hours	3	**Level of study**	Undergraduate-Year Two
College / Centre	COBA		
Co-requisites		**Pre-requisites**	INTE101

1. COURSE OUTLINE

[Computer Networks plays a major role in the computing activities industry. This course introduces a student to the fundamental of Computer Networks, architectures and communication protocols. Students will have a broader understanding of all aspects of computer network including network medium access, routing internetworking, connection issues and internet application protocols.]

2. AIMS

[This course aims are to enable students to understand the theoretical concepts of computer network 1, principles, ideas and uses.]

3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes ***(Definitive)*** Upon successful completion of this course, students will be able to**:**	**Teaching and Learning methods** ***(Indicative)***	**Assessment** ***(Indicative)***	**Graduate Attributes**
1. Demonstrate general understanding of the Computer Networks core concepts	e.g, lectures, online videos tutorials and seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	e.g., tests, assignments, individual or group project, participation	Knowledge of a discipline. Global insight.
2. Describes the concepts in computer network infrastructures	e.g, lectures, online videos tutorials and seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	e.g., tests, assignments, individual or group project, participation	Knowledge of a discipline. Adaptability to changing environments.
3. Discuss computer network medium and protocols, Evaluate computer network infrastructure and network management.	e.g, lectures, online videos tutorials and seminars, online group discussions using LMS, independent readings, individual or group work, presentation.	e.g., tests, assignments, individual or group project, participation	Knowledge of a discipline. Global insight. Adaptability to changing environments.
4. Configure local area computer network.	e.g, lectures, online videos tutorials and seminars,	e.g., tests, assignments,	Knowledge of a discipline.

	online group discussions using LMS, independent readings, individual or group work, presentation.	individual or group project, participation	Commitment to national development and Omani ethical values. Innovative spirit. Global insight. Adaptability to changing environments.

4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
Mid-term Exam	30
Final Exam	30
Assignments	30
Participation	10
TOTAL	**100%**

5. ACHIEVING A PASS

Students will achieve 3 credit hours for this course by achieving a minimum overall score of 50%
NB *Ensure that ALL learning outcomes are taken into account

6. COURSE CONTENT (Indicative)

LECTURE TOPIC	TIME (HOURS)
Chapter 1: Introduction to computer network Uses of computer networks Network hardware and software Network models	6
Chapter 2: The Physical Layer Introduction to physical layer Transmission mode Wireless transmission Mobile Cable TV.	6
Chapter 3: THE DATA LINK LAYER Data link layer design issues Error detection and correction Elementary data link protocols Sliding window protocols	6

Chapter 4, THE MEDIUM ACCESS CONTROL SUBLAYER The channel allocation problem Multiple access protocols Ethernet Bluetooth Rfid Data link layer switching	6
Chapter 5: THE NETWORK LAYER Network layer design issues Routing algorithms Congestion control algorithms Quality of service Internetworking	6
Chapter 6: THE TRANSPORT LAYER The transport service Elements of transport protocols Congestion control The internet transport protocols Performance issues.	6
Chapter 7: THE APPLICATION LAYER Dns—the domain name system Electronic mail The world wide web Streaming audio and video Content delivery.	6
Chapter 8: NETWORK SECURITY, Cryptography Symmetric-key algorithms Digital signatures Management of public keys Communication security Authentication protocols Email security Web security Social issues.	6

TOTAL HOURS	**48**
Plus **RECOMMENDED INDEPENDENT STUDY HOURS**	
TOTAL COURSE HOURS	**48**

7. RECOMMENDED READING

Core text/s:

1. Computer Networks (5th Edition), by Andrew Tanenbaum, Prentice Hall, 2011
2. Computer Networking (3th Edition), by J. F. Kurose and K.W. Ross, Adisson Wesley, 2004.
Mills, D.L., 2016. *Computer network time synchronization: the network time protocol on earth and in space*. CRC press.

[Library + online resources: ASU library
ASU online resources (ProQuest and e-library) and
Sultan Qaboos University Library.