

**Faculty of Engineering & Technology**

**Computer Communication Networks**

**Information :**

**Course Code :** COM 525

**Level :** Undergraduate

**Course Hours :** 3.00- Hours

**Department :** Specialization of Electronics & Communication

**Instructor Information :**

Title	Name	Office hours
Associate Professor	Ahmed Mahmoud Mohamed Mohamed ElShafee	2
Teaching Assistant	Samar Abdelmohaimen Mohamed Soliman	

**Area Of Study :**

- Understand the wired and wireless transmission media used in computer networks
- Understand access control and routing techniques used in computer networks.
- Understand TCP and UDP transport layer
- Be familiar with basics of queuing theorems applied to computer network
- Be familiar with main application layer protocols
- Be familiar with computer security basics

**Description :**

Classification of computer communication networks, Transmission media, Access control, Fundamentals of queuing theory, Unicast routing protocols. Transport layer protocols. Multimedia. Application layer protocols. Security in computer networks

**Course outcomes :**

**a. Knowledge and Understanding: :**

- 1 - Recognize the characteristics of transmission media used in computer network
- 2 - Demonstrate the knowledge of routing, access techniques

**b. Intellectual Skills: :**

- 1 - Apply appropriate mathematical knowledge to understand queuing theorem and network security.
- 2 - Analyze simple network protocols

**c. Professional and Practical Skills: :**

- 1 - Merge the knowledge of communication to the analysis and design of computer networks
- 2 - Apply theories of mathematics to analyze computer networks.

**d. General and Transferable Skills: :**

- 1 - Collaborate effectively within multidisciplinary team.
- 2 - Communicate effectively.
- 3 - Demonstrate efficient IT capabilities.
- 4 - Effectively manage tasks, time, and resources.

### Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Overview on computer networks	5	3	2
Transmission media in computer networks	5	3	2
Access control in computer networks	10	6	4
Unicast routing protocols.	10	6	4
TCP , UDP Transport protocols.	10	6	4
Multimedia	10	6	4
Application layer protocols.	10	6	4
Security in computer networks	10	6	4
Elements of Queuing theorem.	5	3	2

### Teaching And Learning Methodologies :

Lecture

Tutorial

Laboratory/ Assignments

### Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final exam	40.00		
o Assignment	10.00		
o In Class Quizzes and Participation	20.00		
o Mid-Term Exams	30.00		

### Recommended books :

- [1]William Stallings Data and Computer Communications 10th Edition  
 [2]BA.Forouzan Data Communications and Networking 5th Edition