Future Academy Higher Future Institute for Specialized Technological Studies

Course Specification

1- Course information:

Course Code:	CSC231
Course Title:	Introduction to computer Networks
Year/level	2nd
Academic Programs	Computer Science Program (B.Sc.)
Contact hours/ week	(Theoretical=2hrs, Practical =2hrs), Total=4hrs

2- Course aims:

This course aims to provide students with an understanding of Computer Networks. Additionally, it also aims to know the benefits of computer network and the requirements for setting up Computer Networks.

3- Intended learning outcomes of the course (ILOs):

a- Knowledge and understanding:

On successful completion of this course, the student should be able to:
al- Describe the basics of computer networks.
a2-Illustrate some professional issues that are important in networking.
a3-Define real world local and wide networks.
a4- Describe OSI model.
a5- Describe social effects of networking

b- Intellectual skills:

On completing this course, the student should be able to:
b1--Specify each layer of the computer network.
b2- Assess the architecture and protocols of the local area network.
b3-Analyze the computer networks and their interconnections.

c- Professional and practical skills:

At the end of this course, the student will be able to:
c1- Design the proper wired network layout and architecture.
c2-Practice Configuration and routing protocols.

d- General and transferable skills:

On successful completion of this course, the student should be able to:
d1- Demonstrate efficient network's capabilities.

d2- Search, life-long, for information in a self-learning manner and refer to relevant literature efficiently.

d3-Acquire business skills.

4- Course contents

Topics/units	Number of hours		ILO's
	Lecture hours	Practical hours	
➤ **Introduction**	2	1	a1
➤ **Theoretical basis for data communication.** ➤ **The use of computer NWs.**			a1,a2, a5,d1,d3,
➤ **NW Topology.** ➤ **NW structure and architecture.** ➤ **Networks (LAN, MAN & WAN)**	4	2	a2,a3,c1.b2,d3
➤ **ISO Reference model.**	2	1	a1, a4,b1,c1,d2,d3
➤ **Physical layer& DLL protocol's**	4	2	a4,b2,b3 ,c1,d2,d3
➤ **Access Methods**	2	1	C2, d2
➤ **Telephone system, Tx & MUX**	4	2	a3, b2, c2,d2
➤ **The network layer: Virtual circuits and datagrams, routing algorithms, satellite packet broadcasting Backbone design & local access NW design.**	4	2	a3, b2, c2,d1,d2
➤ **Rev.**	2	1	

5- Teaching and learning methods

Methods	ILO's																			
	a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	c1	c2	c3	c4	c5	d1	d2	d3	d4	d5
Lectures	√	√	√	√	√	√	√	√			√	√				√	√	√		
Practical sections		√	√		√	√	√	√			√	√				√	√	√		
Self-learning		√		√		√												√		
Assays and reviews	√	√	√	√	√	√	√	√			√	√				√	√	√		
Discussion groups								√								√	√	√		
Brainstorming																				

Blended- learning																						
E-learning																						

6- Teaching and learning methods for Low-achieving students

- Extra teaching hours for those who need help
- More quizzes to assess their ability for understanding the course
- Encourage the team work for those students with other advanced ones to increase their participation and understanding

7- Student assessment

Assessment method	Time	Grade weight (%)	ILOs
Written Examination		60	a1, a2,a4 ,b1,b2,b3 ,c1,d1,
Mid-Term Examination		10	a1, a2,a4 ,b1,b2,b3 ,c1,d1
Practical/Laboratory Work:		15	a2, a3,a5 ,b1,b2,b3 ,c1,c2
Assignments/Classwork:		10	a1, a2,a4 ,b1,b2,b3 ,c1,d1
Others		5	b2,b3 ,c1
Total:		100 %	

8-List of references

8.1. Student notebooks:

- Comprehensive instructor notes ("slides") will be made available on the course web page classroom.

8.2. Essential textbooks:

> **Data Communications & Networking , Behrouz A Forouzan**

8.3. Recommended textbooks:

> **Data & Computer Communications, William Stalling, 8th Edition.**

8.4. Journals, Periodical and Reports ……..etc.

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8.5. Websites

https://www.cisco.com/c/en_eg/index.html

Course Coordinator: *Dr. Eng, M Amer*
Head of department: *Prof. Dr. Yasser F. Ramadan*
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