



Faculty of  
Engineering at  
shoubra

## Model No.12

# Course Specifications : Communication Networks

**Faculty :** Faculty of Engineering at shoubra

**Department :** Electrical Engineering Department

### 1- Course Data

Course Code : ECE 323

Course Title : Communication Networks

Study Year : Third Year

Specialization :

Teaching Hours:

Lecture : 3

Tutorial :

Practical : 2

### 2- Course Aim

For students undertaking this course, the aims are to:

- 2.1- Design Fundamentals of communication networks
- 2.2- Configure Communication Network.
- 2.3- Implement structures in the networks including LAN, MAN and WAN network structure.

### 3- Intended Learning Outcomes of Course (ILOS)

#### a- Knowledge and Understanding

On completing this course, students will be able to:

- a-1- Describe the meaning of communication networks and how to perform it.(a5)
- a-2- Define the mean difference between network topologies.
- a-3- Define the OSI model and communication network Architecture.
- a-4- - Define the Routing protocols.(a5)
- a-5- Demonstrate methodologies of communication networks. (a6)
- a-6- Demonstrate solving sub-networking problems.(a6)

#### b- Intellectual Skills

At the end of this course, the students will be able to:

- b- 1- Assess the characteristics of communication Networks. (b6)
- b-2- Evaluate the network systems and protocols. (b6)

#### c- Professional Skills

On completing this course, the students are expected to be able to:

- c- 1 - Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the communication Network and develop required computer programs. (c6)

#### d- General Skills

At the end of this course, the students will be able to:

- d-1 - Work in stressful environment and within constraints. (d2)

### 4- Course Contents

No.	Topics	No of hours
1	Introduction to Communication Networks	3
2	OSI Model and Communication Network architecture	6
3	Application Layer Protocols (HTTP and DNS)	6
4	Physical Layer, data transmission protocols and techniques	6

5	Local, Metro, Wide Area Networks Technologies	9
6	Static routing protocol	3
7	Dynamic routing protocols	3

## 5- Teaching and Learning Methods

- 5.1- Modified Lectures
- 5.2- Practical training / laboratory
- 5.3- Project Assignment

## 6- Teaching and Learning Methods of Disables

Not available

## 7- Student Assessment

### a- Student Assessment Methods

1	Project Assignment to assess knowledge and intellectual skills.
2	Laboratory assignments to assess knowledge, intellectual and professional skills.
3	Mid-term exam to assess knowledge, intellectual.
4	Final Exam to assess knowledge, intellectual and general skills.

### b- Assessment Schedule

No.	Assessment	Week
1	Lab on	2, 5, 9, 11
2	Project on	10, 11, 12 and
3	Mid-term exam on	8
4	Final Exam on	15

### c- Weighting of Assessments

Assessment	Weight
Midterm Examination	15 %
Final Term Examination	64 %
Oral Examination	0 %
Practical Examination	0 %
Semester work	8 %
Other types of assessment	13 %
Total	100 %

## 8- List of References

### a- Books

- 1- Behrouz A Forouz, Data Communications and Networking, McGraw-Hill Science/Engineering/Math; 3 edition, 2006

### b- Web Sites

- 1- ISBN-10: 0072923547

- Course Coordinator :

- Course Instructor : Dr. Adly Tag Eldeen

- Head of Department : Prof. Dr. Sayed Abu-Elsood Ward



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## Model No.11A Course Specifications : Communication Networks

**University :** Benha university

**Faculty :** Faculty of Engineering at shoubra

**Department :** Electrical Engineering Department

### Matrix of Knowledge and Skills of the course

No .	Topics	week	Basic Knowledge	Intellectual Skills	Professional Skills	General Skills
1	Introduction to Communication Networks	1	a1, a2	b1	c1	
2	OSI Model	2	a3	b1	c1	
3	Communication Network architecture	3	a1, a2	b1	c1	
4	HTTP and DNS Application Layer Protocols	4	a3	b1	c1	
5	DHCP Application Layer Protocols	5	a3	b1	c1	
6	Physical Layer	6	a3	b1	c1	
7	Data transmission protocols and techniques	7	a3	b1	c1	
8	Midterm exam	8	a5,a6	b1		d1
9	Local Area Networks Technologies	9	a1, a2	b1	c1	
10	Metro Area Networks Technologies	10	a1, a2	b1	c1	
11	Wide Area Networks Technologies	11	a1, a2	b1	c1	
12	Routing Protocols	12	a4,a5,a6	b2	c1	
13	Static routing	13	a4, a5,a6	b2	c1	



**Course Instructor:** Dr. Adly Tag Eldeen  
**Head of department:** Prof. Dr. Sayed Abu-Elsood Ward

## Matrix of course aims and ILO's

**Course Title:** Communication Networks **Code:** ECE323  
**Lecture:** 3 **Tutorial:-** **Practical:** 2 **Total:**5  
**Program on which the course is given:** B.Sc. Electrical Engineering (Communications)  
**Major or minor element of program:** Major  
**Department offering the program:** Electrical Engineering Department  
**Department offering the course:** Electrical Engineering Department  
**Academic year / level:** **Third Year / Second Semester**  
**Date of specifications approval:** 20/6/2010

Course aims	a1	a2	a3	a4	a5	a6	b1	b2	c1	d1
Design Fundamentals of communication networks	✓	✓	✓				✓	✓	✓	
Configure communication Network				✓	✓	✓	✓	✓	✓	
Implement structures in the networks including LAN, MAN and WAN network structure	✓	✓	✓				✓	✓	✓	✓

**Course coordinator:**  
**Course Instructor:** Dr. Adly Tag Eldeen  
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