# Network-1
# IT 224 Second term 1432/1433

**Instructor**: Dr. Gihan NAGUIB
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**Credit hours: 3**

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**Text Book:**

Behrouz A. Forouzan " Data Communications and Networking", McGrew-Hill, fourth edition,2007

# Exams time

| | Time | Grading |
|---|---|---|
| **Three Quizzes** | **Q#1 : Wed. 27/2/2013**<br>**Q#2: Wed. 3/4/2013**<br>**Q#3: Sat. 4/5/2013** | **14%** |
| **Tutorial and LAB** | | **13%** |
| **Mid#1 exam** | **Sun.: 10/3/2013** | 15% |
| **Mid#2 exam** | **Sun: 21/4/2013** | 18% |
| **Final exam** | | 40% |

# Course contents

## Part1: Overview of Data Communications and Networking

- **Ch1: Introduction**
- **Ch.2: Network Models**

## Part2: Physical Layer

- **Ch3 Signals**
- **Ch4 Digital Transmission**
- **Ch5 Analog Transmission**
- **Ch.7 Transmission Media**

# Course contents

## Part3: Data Link Layer:

- Ch.10 Error Detection and correction
- Ch.11 Data Link Control and protocols
- Ch.12 Multiple Access
- Ch.13 Local Area Networks: Ethernet
- Ch.15 Connecting LANs, Backbone Networks and virtual LANs

## Part 4: Network Layer:

- Ch.19 Logical Addressing
- Ch20 Internet protocol
- Ch.21 Address Mapping, Error Reporting
- Ch.22 Routing: Routing Protocols

# Course Learning Outcomes

1. Describe what a computer network is and the meaning of the terms protocol and standard. **Ch1**
2. Recognize the architecture of the TCP/IP Protocol Suite and OSI model. **Ch2**
3. Analyze the different type and characteristics of signals. **Ch3**
4. Identify and explain the concept of modulation techniques (Digital and Analog) **Ch4 &Ch5**

# Course Learning Outcomes

5. Apply the concept of data link layer such as: framing, error detection & correction, flow control and multiple access protocols**Ch10&Ch11&Ch12**

6. Recognize the different versions of wired Ethernet LANs. **Ch13**

7. Differentiate between different devices for connecting LANs. **Ch15**

# Course Learning Outcomes

8. Apply Spanning tree algorithm to create a loop less topology in a bridged LAN.**Ch15**

9. Recognize IPv4 addresses and classes and Internet protocol version 4(Ipv4) . Ch19-Ch20

10. Understand Unicast routing protocols such as: RIP and OSP. **Ch22**