

King Fahd University of Petroleum and Minerals
College of Computer Sciences and Engineering
 Department of Computer Engineering
COE 442 Computer Networks (3-0-3)

Instructor: Dr. Marwan Abu-Amara
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Term: 042 (2nd term 2004–2005)
Day & Time: UT 08:30 AM – 09:45 AM
Location: 24-110
Prerequisite: COE 342 (Data and Computer Communications)
Textbook: *Computer Networking: A Top-Down Approach Featuring the Internet*, J. Kurose & K. Ross, Addison Wesley, 2nd Edition, 2003.
Office Hours: SMW 10:30 AM – 11:30 AM (or by appointment)
Web Site: <http://www.ccse.kfupm.edu.sa/~marwan>

Tentative Grading Policy:

- Homeworks **0%**
- Quizzes..... **15%**
- Lab **15%**
- Major Exam I **20%** (Tuesday March 15, 2005 from 06:30 PM to 08:30 PM)
- Major Exam II..... **20%** (Tuesday May 03, 2005 from 06:30 PM to 08:30 PM)
- Final Exam **30%** (*Comprehensive*)

IMPORTANT NOTES:

- All KFUPM regulations and standards will be enforced. Attendance will be checked each class. The KFUPM rule pertaining to a DN grade will be strictly enforced as stated earlier.
- You have 48 hours to object to the grade of a quiz or a major exam from the end of the class time in which the graded papers have been distributed back. If for some reason you cannot contact me within this period, send me an email requesting an appointment. The email should be sent within the 48-hour time period.
- **NO make up exams.** ALL quizzes will be counted towards your grade.
- Final exam is **comprehensive**.
- General guidelines for grades:

Range	≥ 90 and ≤ 100	≥ 80 and < 90	≥ 70 and < 80	≥ 60 and < 70	< 60
Minimum Grade	A	B	C	D	F

Tentative schedule

Week		Topic	Lab. Experiments
1	Introduction (Chapter 1)	What is the Internet, What is a protocol? Network Edge, Network Core, and Network Access & Physical Media Delay and Loss in Packet-Switched Networks Protocol Layers and Their Service Models Internet Backbones, NAs and ISPs Brief History of Computer Networking and the Internet	Introduction: Lab setting, Network devices, etc.
2	Application Layer (Chapter 2)	Principles of Application Layer Protocols The World Wide Web: HTTP File Transfer: FTP	Lab1: Networking Tools - OS and LAN implementation
3		Electronic Mail in the Internet The Internet's Directory Service: DNS	Lab2: Application Layer - Web, FTP, and TFTP Services
4		Content Distribution	Lab3: Application Layer - DNS, SMTP, and POP3
5	Transport Layer (Chapter 3)	Transport-Layer Services and Principles Multiplexing and Demultiplexing Applications	Lab4: Application and Transport Layers - Socket Programming
6		Connectionless Transport: UDP Principles of Reliable of Data Transfer: TCP case study Principles of Congestion Control Major Exam I (Tuesday March 15th, 2005)	Lab5: Transport Protocol Analysis - TCP, UDP
7		Principles of Congestion Control	Lab6: IP Address Assignment in LANs and Inter-networked LANs
8	Network Layer (Chapter 4)	Introduction and Network Service Models Routing Principles Hierarchical Routing	Lab7: IP Address Subnetting, CIDR, and VLSM
9		Mid-term Break (April 09, 2005 – April 13, 2005)	
10		IP: the Internet Protocol Routing in the Internet What is Inside a Router?	Lab8: IP Address Assignment: Static and Dynamic using DHCP
11		Mobile networking (introduction)	Lab9: Dynamic Routing Protocols: RIP, and RIPv2
12	Data Link Layer (Chapter 5)	The Data Link Layer: Introduction & Services Multiple Access Protocols and LANs LAN Addresses and ARP Major Exam II (Tuesday May 3rd, 2005)	Lab10: Dynamic Routing Protocol: OSPF
13		Ethernet Hubs, Bridges and Switches Wireless LANs: IEEE 802.11	Lab11: Routing Between LANs: IGRP
14		PPP: the Point-to-Point Protocol , ATM	Lab12: Network Protocol Analysis - IEEE 802.3, ARP, and ICMP
15	Multimedia Networking (Chapter 6)	Multimedia Networking Applications Streaming Stored Audio and Video	Lab13: Wireless LAN
16		Making the Best of the Best-Effort Service: An Internet Phone Example Protocols for Real-Time Interactive applications	Final Lab Exam

* Week 1 begins on *February 12, 2005*