

King Fahd University of Petroleum and Minerals
College of Computer Sciences and Engineering
Department of Computer Engineering

COE 442 Computer Networks (3-3-4)

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Term: 051 (1st term 2005–2006)
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)
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Tentative Grading Policy:

- Homeworks **0%**
- Quizzes..... **15%**
- Lab **15%**
- Major Exam I..... **20%** (Thursday October 13, 2005 from 09:00 PM to 11:00 PM)
- Major Exam II..... **20%** (Tuesday November 29, 2005 from 07:00 PM to 09:00 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, NAPs and ISPs Brief History of Computer Networking and the Internet	<u>Introduction</u> : Lab setting, Network devices, etc.
2	Application Layer (Chapter 2) Principles of Application Layer Protocols The World Wide Web: HTTP File Transfer: FTP	<u>Lab1</u> : Networking Tools - OS and LAN implementation
3	Electronic Mail in the Internet The Internet's Directory Service: DNS	<u>Lab2</u> : Application Layer - Web, FTP, and TFTP Services
4	Content Distribution	<u>Lab3</u> : Application Layer - DNS, SMTP, and POP3
5	Transport-Layer Services and Principles Multiplexing and Demultiplexing Applications Major Exam I (Thursday October 13th, 2005)	<u>Lab4</u> : Application and Transport Layers - Socket Programming
6	Connectionless Transport: UDP Principles of Reliable of Data Transfer: TCP case study Principles of Congestion Control	<u>Lab5</u> : Transport Protocol Analysis - TCP
7	Principles of Congestion Control	<u>Lab6</u> : Transport & Network Protocol Analysis - UDP, IP
8 & 9	Eid Al-Fitr Break (October 29, 2005 – November 09, 2005)	
10	Network Layer (Chapter 4) Introduction and Network Service Models Routing Principles Hierarchical Routing	<u>Lab7</u> : IP Address Assignment: Static and Dynamic using DHCP
11	IP: the Internet Protocol Routing in the Internet What is Inside a Router?	<u>Lab8</u> : IP Address Subnetting, CIDR, and VLSM
12	Mobile networking (introduction) Major Exam II (Tuesday November 29th, 2005)	<u>Lab9</u> : IP Address Assignment in LANs and Inter-networked LANs
13	The Data Link Layer: Introduction & Services Multiple Access Protocols and LANs LAN Addresses and ARP	<u>Lab10</u> : Dynamic Routing Protocols: RIP, and RIPv2
14	Ethernet Hubs, Bridges and Switches Wireless LANs: IEEE 802.11	<u>Lab11</u> : Network Protocol Analysis - IEEE 802.3, ARP, and ICMP
15	PPP: the Point-to-Point Protocol , ATM	<u>Lab12</u> : Wireless LAN
16	Multimedia Networking (Chapter 6) Multimedia Networking Applications Streaming Stored Audio and Video	
17	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 *September 10, 2005*