King Fahd University of Petroleum and Minerals

College of Computer Sciences and Engineering

Department of Computer Engineering

COE 540: Computer Networks (3-0-3)

Textbook:

1. Andrew S. Tanenbaum and David J. Wetherall , *Computer Networks*, 5th Edition., Pearson, 2011
2. Dimitri Bertsekas and Robert Gallager, *Data Networks*, second edition, 1992, Prentice Hall, Inc., and
3. J. F. Kurose and K. W. Ross *Computer Networking: A Top-Down Approach featuring the Internet* , 5th Edition, 2008, Prentice Hall Publishing Company.

References:

1. Garcia, L., and Widjajm I., Communication Networks, 2nd Edition, 2006.
2. Garcia, L., *Probability and Random Processes for Electrical Engineering*, 2nd Edition, Addison Wisely,

Instructor: Dr. Ashraf S. Mahmoud (Room 22-420, Ext 1724, email: **ashraf@kfupm.edu.sa**)
Class Time/Place: SM 17:00-18:15 pm – Building 22, Room 134.
Office Hours: TBD.

Catalog Description:

Computer Networking concepts. Basic Terminology; Protocols; Communication Architectures; OSI Reference Model, Protocol suites. Data Link Layer; ARQ Strategies; Analysis of ARQ Strategies. Multi-access communication. Introduction to ATM Delay Models in Data Networks; Introduction to performance analysis; Little's Theorem; Single queue models; Network of queues. Network layer. Routing in Data Networks. Flow and Congestion Control. Transport layer. Application Layer.

Tentative Grading Policy:		***Tentative* Date**
• Quizzes/Homework:	**25%**	
• Major Exam:	**20%**	To be determined
• Final Exam:	**30%**	Thurs Jan 12th, 2012 at 7:00 PM
• Project*	**25%**	
Total	**100%**	

** A separate handout will be distributed describing the offered projects and the respective deadlines and subweights.*

Tentative Course Contents:

1. Introduction to computer networks – Chapter 1 of Tanenbaum's textbook
2. Physical layer – Chapter 2 of Tanenbaum's textbook
3. Data link layer – Chapter 3 of Tanenbaum's textbook
4. Medium access protocol – Chapter 4 of Tanenbaum's textbook, plus notes
5. Network layer - Chapter 5 of Tanenbaum's textbook
6. Transport layer - Chapter 6 of Tanenbaum's textbook
7. Application layer - Chapter 7 of Tanenbaum's textbook