

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

COE 341 Data and Computer Communications (3-0-3)

**Instructor:** Dr. Marwan Abu-Amara  
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**Term:** 111 (1<sup>st</sup> term 2011–2012)  
**Day & Time:** UT 10:00 AM – 11:15 AM  
**Location:** 24-178  
**Prerequisite:** MATH 102 (Calculus II)  
**Textbook:** *Data and Computer Communication*, William Stalling, Prentice Hall International, 8<sup>th</sup> Edition, 2007.  
**Office Hours:** UT 08:30 AM – 09:45 AM (or by appointment)  
**Web Site:** <http://faculty.kfupm.edu.sa/COE/marwan>

**Tentative Grading Policy:**

- Quizzes **09%**
- Homeworks **08%**
- Essay Assignment **05%**
- Programming Assignment(s) **08%** (Using *MATLAB*)
- Major Exam I **20%** (Week 07 – Tuesday October 25, 2011)
- Major Exam II **20%** (Week 13 – Tuesday December 13, 2011)
- Final Exam **30%** (*Comprehensive* – Saturday January 14, 2012 – 7:30 AM)

**Tentative schedule:**

Week	Topic	Textbook Section
1	Communication Model - Data Communications Networking	1.1, 1.2, & 1.3
2	Protocols (characteristics and functions) and Protocol Architecture (OSI and TCP/IP models)	2.1, 2.2, 2.3 & 2.4
3	Data Transmission (concepts and terminology), Analog and Digital Data Transmission	3.1, 3.2
4	Analog and Digital Data Transmission (continued) – Fourier Series Analysis and Fourier Transform Representation	Fourier Transform (class notes)
5	Transmission Impairments – Nyquist formula and Shannon’s Capacity	3.3 & 3.4
6	Transmission Media: Guided & Wireless	4.1 & 4.2
7	Data Encoding: Digital Data – Digital Signals	5.1
8	Data Encoding: Digital Data – Analog Signals	5.2
9	Data Encoding: Analog Data - Digital Signals, Analog Data – Analog Signal	5.3 & 5.4
10	Data Encoding: Analog Data – Analog Signal (continued)	5.4
11	Asynchronous and synchronous data interface, Error Detection	6.1, 6.2, & 6.3
12	Flow Control (stop-and-wait and sliding window flow) and Error Control	7.1 & 7.2
13	Error Control (continued), HDLC	7.2 & 7.3
14	FDM and Synchronous TDM	8.1 & 8.2
15	Synchronous TDM, ADSL, and Statistical TDM	8.2 & 8.3

**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 (i.e. > **6 absences** will result in a DN grade). *Check the website regularly for warnings regarding your absences.*
- If you are late to the class for more than 10 minutes (i.e. arrive after 10:10 AM), you will **NOT be allowed to enter** the classroom and you will be considered absent for that class.
- Only university approved/certified excuses will be accepted, and should be presented **no later than 1 week** after absence.
- Use of cell phones and PDAs during class period and during exams is absolutely **prohibited**.
- Homeworks are to be submitted **in class** on the due date during the class period. Late homeworks will **NOT be accepted**.
- You have 48 hours to object to the grade of a homework, 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 makeup exams**. ALL homeworks and quizzes will be counted towards your grade.
- Final exam is **comprehensive**.