

King Fahd University of Petroleum and Minerals
 Department of Mathematical Sciences
SYLLABUS
 Semester I, 2011-2012 (121)
 Dr. Monther R. Alfuraidan

Course #: Math 425
Title: Graph Theory
Textbook: Graphs & Digraphs by G. Chartrand and L. Lesniak, 5th edition, 2010.
Lecturer: **Name: Monther Alfuraidan Office: 5-505 or 17-103 Phone: 1977**
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Office hours: 12:00 – 1:00 PM SMW (Other times by appointment)

Week	Date	Sec. #	Topics
1	Sep. 01-05	1.1	Graphs and Subgraphs
2	Sep. 08-12	1.2 1.3	Degree Sequences Connected Graphs and Distance
3	Sep. 15-19	1.4 2.1	Multigraphs and Digraphs Nonseparable Graphs
4	Sep. 22-26*	2.2 2.3	Trees Spanning Trees
5	Sep. 29-Oct. 3	--- --- 2.4	Review and/or catching up Exam I is on Monday, October 1, 2012 (1.1-2.3) Connectivity and Edge-Connectivity
6	Oct. 06-10	2.5 3.1	Menger's Theorem Eulerian graphs
7	Oct. 13-17	3.2 3.3	Hamiltonian Graphs Powers of Graphs and Line Graphs
Id Al-Adha Vacation : Thursday, Oct. 18 –Friday Nov. 02,2012			
8	Nov.03-07	3.3 ---	Continued Exam II is on Wednesday, November 7, 2012 (2.4-3.3)
9	Nov. 10-14	4.1 4.2	Strong Digraphs Tournaments
10	Nov. 17-21	4.3 5.2	Flows in Networks The Automorphism Group of a Graph
11	Nov. 24-28	5.3 5.4	Cayley Color Graphs The Reconstruction Problem
12	Dec. 01-05	6.1	The Euler Identity Exam III is on Wednesday, December 5, 2012 (4.1-6.1)
13	Dec. 08-12	6.2 6.3	Planarity versus Nonplanarity The Crossing Number of a Graph
14	Dec. 15-19	12.1 12.2	Turán's Theorem Cages
15	Dec. 22- 26	12.3 ---	Ramsey Theory Review and/or catching up

* Sunday, Sep 23-national holiday

Evaluation:

(1) Exam I	15%
(2) Exam II	15%
(3) Exam III	15%
(4) Homework	20%
(5) Final Exam	35%
Total	100

There will be no “make-ups” for exams. *Unless a valid excuse is presented in advance, a missed exam or homework will receive the score 0. Of course, family vacations, commercial travel schedules, etc. are NOT acceptable excuses for missing scheduled classes.* Students must look at this syllabus carefully and ***plan well ahead.***

Homework: A number of problems will be assign regularly. It is recommended that you try to work out these problems after the lecture. The problems in the exams will be similar to the homework problems. You are encouraged to come to my office hours or make an appointment to discuss any difficulties related to the course, including the homework problems. Remember that **“The best way to learn Mathematics is to do Mathematics.” Working as a group is recommended. However, each student needs to write his own solution.**

Attendance: KFUPM policy with regard to attendance will be enforced. Students are expected to attend all class meetings and are responsible for all of the material covered. Any changes in this syllabus or in the scheduling of exams, homeworks, etc. will be announced during class meetings. Students who miss a class meeting should copy a classmate’s notes for that meeting.

Help: Individuals’ questions regarding the course work should be directed to the lecturer, either immediately after class or during scheduled office hours.