Course #:	Math 525
Title:	Graph Theory
Textbook:	Graph Theory by J.A. Bondy U.S.R. Murty, 2008.
E-mail:	**monther@kfupm.edu.sa** (or through Teams)
Office hours:	12:30 – 01:30 PM (UT)

COURSE DESCRIPTION

A basic introduction to graph theory for advanced students in computer science, mathematics, and related fields. Connectivity, matching, factorization and covering of graphs, embeddings, edge and vertex coloring. Line graphs. Reconstruction of graphs. Networks and algorithms. Topological Subgraphs: Contractions.

Weekly Schedule

Week	Dates	Ch. #	Topics
1	August 25-29	1	Graphs
2	September 1-5	2	Subgraphs
3	September 8-12	3	Connected Graphs
		3/4	Connected Graphs/ Trees
4	September 15-19	4	Trees
		7	Flows in Networks
National Day Holiday September 22-23, 2024			
5		7	Flows in Networks
	Exam I: Tuesday, September 24, 2024	Material (1, 2, 3, 4, 7)	
6	September 29 - October 3	9	Connectivity
7	October 6-10	9	Continue-Connectivity
8	October 13-17	9	Continue-Connectivity
9	October 20-24	10	Planar Graphs
10	October 27-31	10	Planar Graphs
11	November 3-7	11	The Four-Colour Problem
	Exam II: Tuesday, November 5, 2024	Material (9, 10, 11)	
Midterm Break November 10-14, 2024			
12	November 17-21, 2024	12	Stable Sets and Cliques
13	November 24-28, 2024	13	The Probabilistic Method
14	December 1-5, 2024	14	Vertex Colourings
	Exam III: Tuesday, November 19, 2024	Material (12,13, 14)	
15	December 8-12, 2024	16	Matchings
16	December 16	Review/ Catching up -Last Day of classes for the term	
Final Exam	TBA: (December 17-29)	Material: Comprehensive	

Homework: A number of problems will be assigned 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. 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.

Evaluation:

Exam I	15%
Exam II	15%
Exam III	15%
Homework	20%
Final Exam	35%
Total	100