

King Fahd University of Petroleum and Minerals.  
Department of Mathematics & Statistics

Syllabus of Math 131 (Finite Mathematics)  
(Semester: 091: October 03, 2009 – February 10, 2010)

Coordinator: Dr. Suliman Al-Homidan

Textbook: *Introductory Mathematical Analysis for Business, Economics, and the life and Social Sciences*, by Ernest F. Haeussler, Jr. Richard S. Paul, & R. J. Wood, 11<sup>th</sup> /12<sup>th</sup> Ed. (2005/2008).  
(Supplementary notes: *Mathematics with Applications*, by Lial & Hungerford, 7<sup>th</sup> Ed., 1999).

**MATH 131 Finite Mathematics (3-0-3)**

**Description:** Linear equations and inequalities. Systems of linear equations. Basic material on matrices. Elementary introduction to linear programming. Counting techniques. Permutations and combinations. Probability for finite sample space. Basic concepts in statistics. Topics in the mathematics of finance.

**Prerequisite:** One year preparatory mathematics or its equivalent

Week	Dates	Section	Material	Homework
1	Oct. 03 – Oct. 07, .	1.1 1.3 3.1	Applications of Equations Applications of Inequalities Lines (Review)	4,12,16,20,25,28,33,36,43 1, 2, 4, 5, 6, 7, 9, 10, 12 12, 32, 58, 64, 66, 67, 69, 71
2	Oct. 10 – Oct. 14, .	3.2 3.3 3.4	Applications and Linear Functions Quadratic Functions Systems of Linear Equations	16, 17, 18, 20, 24, 25, 26, 31 27, 29, 30, 31, 34, 36, 39, 40 26, 28, 29, 34, 37, 38, 39, 41
3	Oct. 17 – Oct. 21, 09	3.5 3.6	Nonlinear Systems Applications of Systems of Eqns.	4, 6, 7, 9, 12, 13, 14, 15, 16 7,8,15,16,17,18,19,20,21,25
4	Oct. 24 – Oct. 28, 2009.	7.1 7.2 7.3	Linear Inequalities in Two Var. Linear Programming Multiple Optimum Solutions	16,18, 20,21, 22, 24, 28, 29 4, 10, 13, 14, 15, 16, 17, 18 1, 2, 3, 4
5	Oct. 31 – Nov. 04, 2009.	6.4 6.5 7.4	Reduction in Matrix Algebra Reduction in Matrix Algebra The Simplex Method <b>Major Exam I Nov 3.</b>	17,23,25,27,28,29,30,31,32 4, 6, 8, 10, 12, 19, 21, 24 5, 8, 12, 14, 16, 17, 18, 19
6	Nov. 07 – Nov. 11, 2009.	7.8 5.1 5.2	The dual (^ Exclude Example 3) Compound Interest Present Value	4, 6, 10, 12, 13, 14, 15, 17 8, 10, 12, 18, 19, 23. 24, 26 8,10,11,14,16,17,18,19,21,22,24
7	Nov. 14 – Nov. 18, 09	10.3 5.3	Interest Compounded Continuously Annuities (Edition 12: 5.3 & 5.4)	5, 10, 12, 14, 16, 19, 20 16, 18, 22, 24, 26, 28, 29, 30
	Nov 19- Dec 4		<b>Id al-Adha Vacation</b> Nov, 18 last day of calsses	
8	Dec. 05 – Dec. 9, 09	8.1 8.1	Basic Counting Principle & Perm. Basic Count. Princ.&Permutations	6 ,4, 6, 8, 10, 19, 22, 25, 26, 28,29, 30, 32, 35, 36, 37, 38, 40

9	Dec. 12 – Dec. 16, 2009.	8.2 8.2 8.3	Comb. and Other Count. Principles Comb. and Other Count. Principles Sample Spaces and Events	10, 11, 14, 15, 18, 23, 25, 26 27, 28, 29, 30, 31, 33, 34, 38 3,6,9, 14, 22, 26, 27, 28,29,31
10	Dec. 19 – Dec. 23, 09	8.4 8.48.5	Probability Conditional Probability <b>Major Exam II Dec 22</b>	4,10,16,19,21,23,24,27,29,31,32 2, 9, 11, 12, 14, 16, 17, 23, 24,
11	Dec. 26 – Dec. 30, 2009.	8.5 8.6 8.6	Conditional Probability (Cntd.) Independent Events Independent Events	26,36,37, 39, 40, 42, 49, 50, 51 2, 4, 7, 8, 13, 14, 20, 23, 25, 27, 28, 29, 31, 32, 33, 35, 36
12	Jan. 02 – Jan. 06,2010	9.1 9.2	Dis. Rand. Var. & Exp. Value The Binomial Distribution	3,4,5,6,9,11,12,13,15,16,18,20 4, 5, 10, 12, 13, 16, 17, 19,
13	Jan. 09 – Jan. 13,2010	9.2 16.2	The Binomial Distribution (Cntd.) The Normal Distribution	20, 21, 22, 23, 24, 25, 26 2,10,14,16,17,18,19,20,21,22
14	Jan. 16– Jan. 20,2010	Sup. 11.1 Sup. 11.1	(P.506-516)Frequency Distributions; Measures of Central Tendency	2, 4, 9, 11, 13, 15, 20, 22, 23, 25, 27, 35, 37, 39, 43, 44
15	Jan. 23 – Jan. 27,2010	Sup. 11.2	Measures of Variation, P.516- 525. REVIEW & CATCH UP	5, 8, 10,12,13,24,25,26,33,36.

Important Dates and Academic Calendar : <http://regweb.kfupm.edu.sa/cal/cal091.htm>

KFUPM policy regarding attendance/DN grade will be strictly enforced for implementation.

Major Exam I : 22 % (Ch.: 1.1 ,1.3, Ch.: 3.1 – 3.6, Ch.: 7.1 – 7.3.); Tuesday, November 03, 2009.

Major Exam II: 22% (Ch.:7.4,7.8, Ch.:6.4 – 6.5, Ch.:5.1 – 5.3, Ch.:10.3, Ch.:8.1 – 8.2); Tuesday, December 22, 2009.

Class Tests/Quizzes: 15 %; Home Work & Attendance, etc.: 05 %,

Final Exam : 36% (Comprehensive) Saturday, January 30, 2010. (Time: 07:30A.M.–10:30A.M.).