

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICAL SCIENCES
DHAHRAN, SAUDI ARABIA

Syllabus for Math 131 (Finite Mathematics)
Summer Semester (123)

Instructor: Musawar Amin Malik **Office:** 5-306 **Phone:** 2396
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Office Hours: SUMT: 12:10 - 1:25 PM, or by appointment.

Textbook: *Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences* by E. F. Haeussler, R. S. Paul, R. J. Wood, Person International 12th Ed. (2008).

Supplementary Notes: *Mathematics with Applications* by M. L. Lial, T. W. Hungerford, J. P. Holcomb, Addison Wesley 9th Ed. (2007). (Copies will be provided on WebCT.)

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.

Important Notes:

- Usually once a chapter is finished, you should submit the HW and expect a quiz on the material.
- Students are required to carry a scientific calculator with stat functions to every lecture, quiz and exam with them. Calculators cannot be shared between students in quizzes or exams. Mobile phones or other communication devices will be strictly prohibited to use.
- Excessive Absences will earn you a DN grade in accordance with University rules.
- **Attendance** on time is *very* important. Mostly, attendance will be checked within the *first five minutes* of the class. Entering the class after that, is considered as one late, and *every two times late* equals to one absence.

Assessment:

Activity	Weight
Class Tests/Quizzes	15%
<i>Home Work and Attendance</i>	6%
<i>First Major Exam (Chapters 1.1 – 7.3) Monday June 24</i>	22%
<i>Second Major Exam (Chapters 5.1-5.4 & 8.1-8.4) Wednesday, July 10</i>	22%
<i>Final Exam (Comprehensive) Sunday July 28, 2012, 12:30 PM</i>	35%

Week	Ch.	Material	Homework
	Sec.		
Week 1 June 8 – 12	1.1	Applications of Equations	4,16,20,28,33,36,43
	1.3	Applications of Inequalities	1,2,3,4,5,6,7,10,12
	3.1	Lines	12,30,58,64,67,69,71
	3.2	Applications and Linear Functions	16,17,20,24,25,27,31
	3.3	Quadratic Functions	27,29,31,32,34,36,37,39,40
	3.4	Systems of Linear Equations	26,28,29,30,37,38,40
Thursday		June 13	Normal Sunday Class
Week 2 June 15 – 19	3.5	Nonlinear Systems	4,7,9,11,13,14,15,16
	3.6	Applications of Systems of Equations	7,8,16,18,19,20,21,22,25
	7.1	Linear Inequalities in Two Variables	16,18,21,22,24,28,29
	7.2	Linear Programming	6,11,14,15,16,18,19
	7.3	Multiple Optimum Solutions	4,6,13,14,15,17,18,19 1,2,3,4
Thursday		June 20	Normal Monday Class
Week 3 June 22 - 26	5.1	Compound Interest	8,10,11,13,18,20,21,24,25
	5.2	Present Value	8,10,11,14,17,18,19,21,22
	5.3	Interest Compounded Continuously	3,4,6,10,12,14,17,18,19,20
	5.4	Annuities	14,15,17,22,24,27,29,30,34
	8.1	Basic Counting Principle	3,4,6,7,8,9,10,19,22,25,26
June-24	Ex-I	Partially Multiple Choice	Material: up to 7.3 inclusive
Week 4 June 29 – July 3	8.1	Basic Counting Principle and Permutations	29,30,32,35,36,37,38,42
	8.2	Combinations and Other Counting Principles	10,11,14,18,20,23,25,29,30,31, 32,33,37,38
	8.3	Sample Spaces and Events	3,6,9,14,22,26,27,28,29,31,32
	8.4	Probability	4,6,12,15,18,19,21,24,26,27,31, 32,33,34

Week 5 July 06 – 10	8.5	Conditional Probability	2,9,12,13,16,17,24,36,37,39,40, 49,50,51
	8.6	Independent Events Discrete Random Variables & Expected Value	2,4,9,13,20,23,28,29,30,32,35 3,4,6,9,11,12,13,15,16,18,21
	9.1	The Binomial Distribution	3,4,5,10,12,13,16,17,19
	9.2		
July 10	ExII	Partially Multiple Choice	Material: 5.1-5.4 & 8.1-8.6
Week 06 July 13 – 17	9.2	The Binomial Distribution (Cntd.)	20,22,23,24,25,26
	16.2	The Normal Distribution	1,2,9,10,16,18,19,21,22
	16.3		3,4,6,9
	Sup.1	The Normal Approximation to the Binomial Distribution	
	0.1	Frequency Distributions, Measures of Central Tendency	1,12,14,17,19,22,25,28,35,37,39 ,43
Week 7 July 20 – 24	Sup.1	Measures of Variation	5,6,10,11,23,24,26,27,33
	0.2		
	6.4	Solving Systems by Reducing Matrices	17,18,24,27,29,31,32,33
	6.5	Solving Systems by Reducing Matrices (continued)	2,4,7,10,13,19,21,22,23,24
	7.4	The Simplex Method	5,8,12,13,15,16,18,19
	7.8	The Dual (Excluding Example 3)	3,4,5,7,8,9,10,13,14,15
Week 8 July 27		Review and Catch up	
July 28		Final Exam (COMPREHENSIVE)	12:30 PM