

**KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS & STATISTICS**

(Term 171)

Math 131: FINITE MATHEMATICS

Instructor: Musawar Amin Malik

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Office Hours: UTR 9:00 am – 10:00 am, UT 12:00 – 1:00 pm and by Appointment

Check Blackboard regularly for announcements

Textbook: E. Haeussler, R. Paul, & R. Wood, *Introductory Mathematical Analysis for Business, Economics, and the life and Social Sciences* (13 Ed.), Pearson, 2014.

Course Descriptions:

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 mathematics of finance.

Assessment for this course is based on **class activities (attendance & homework)**, *three major exams* and a *comprehensive final exam*, as described in the following table:

Assessment

Activity	Weight
<i>Class Work</i>	10%
<i>First Major Exam. (Sections: 1.1, 1.3, 3.1-3.6)</i> <i>Wednesday October 11, 2017</i>	15%
<i>Second Major Exam (Sections: 6.4-6.5, 7.1-7.4, 7.8)</i> <i>Wednesday November 8, 2017</i>	20%
<i>Third Major Exam (Sections: 5.1 - 5.4, 8.1-8.6)</i> <i>Wednesday December 13, 2017</i>	20%
<i>Final Exam (Comprehensive)</i> As posted on the Registrar Website	35%

Grade Assignment

Score	87 – 100	80 – 86	75 – 79	70 – 74	65 – 69	60 – 64	55 – 59	50 – 54
Grade	A+	A	B+	B	C+	C	D+	D

For *Important Dates* and *Academic Calendar*, check the Registrar's site: <http://regweb.kfupm.edu.sa>

SCEDULE and COVERAGE of MATERIAL

Week # (Dates)	Sections	Topics	Homework Problems
Week 1 (Sep 17 – 20)	1.1 1.3	Applications of Equations Applications of Inequalities	9,12,16,21, 25, 31, 33, 43. 2, 4, 6, 7, 9, 10, 12.
Sep 24	National Day Holiday		
Week 2 (Sep 25– 28)	3.1 3.2 3.3	Lines (Review) Applications and Linear Functions Quadratic Functions	8, 13, 32, 58, 65, 71, 72. 15, 17, 19, 20, 24, 26, 31. 27, 29, 31, 34, 36, 39, 40.
Week 3 (Oct 1 – 5)	3.4 3.5 3.6	Systems of Linear Equations Nonlinear Systems Applications of Systems of Equations	26, 28, 29, 35, 36, 40, 41. 6, 9, 12, 14, 15, 16. 3, 7, 9, 15, 17, 18, 19, 20.
Saturday October 7	Normal Sunday Classes		
Week 4 (Oct 8 – 12)	6.4 6.5	Solving Systems by Reductions Solving Systems by Reductions (cont.)	17, 20, 23, 27, 29, 30, 32. 1, 8, 10, 13, 19, 21, 24.
Week 5 (Oct 15 – 19)	7.1 7.2	Linear Inequalities in Two Variables Linear Programming	18, 20, 22, 24, 28, 29. 5, 10, 13, 14, 15, 17, 18.
Week 6 (Oct 22 – 26)	7.3 7.4	Multiple Optimum Solutions The Simplex Method	1, 2, 3, 4. 5, 8, 12, 16, 17, 19.
Week 7 (Oct29–Nov2)	7.8	The Dual (Exclude Example 3)	4, 5, 10, 13, 14, 15.
Week 8 (Nov 5 – 9)	5.1 5.2	Compound Interest Present Value	8, 10, 12, 18, 19, 23, 24. 4, 8, 10, 11, 14, 16, 19, 21.
Week 9 (Nov 12 – 16)	5.3 5.4	Interest Compounded Continuously Annuities	5, 10, 12, 14, 16, 19, 21. 10, 11, 19, 22, 28, 29, 30.
Week 10 (Nov19–23)	8.1 8.2	Basic Counting Principle and Permutations Combinations and Other Counting Principles	6, 8, 10, 19, 25, 26, 29, 32, 37, 38, 40. 6, 10, 14, 18, 23, 25, 26, 30, 34, 38.
Week 11 (Nov 26 – 30)	8.3 8.4	Sample Spaces and Events Probability	3,4, 11, 18, 22, 26, 27, 28. 1, 6, 20, 23, 25, 27, 31, 32, 35
Week 12 (Dec 3 – 7)	8.5 8.6	Conditional Probability Independent Events	2, 10, 14, 17, 23, 26, 37, 41, 47. 1, 6, 20, 23, 25, 27, 31, 32, 35, 36.
Week 13 (Dec 10 – 14)	9.1 9.2	Discrete Random Variables and Expected Value The Binomial Distribution	2, 5, 9, 11, 15, 16, 18, 21. 4, 5, 10, 11, 17, 23, 25, 26.
Week 14 (Dec 17 – 21)	16.2	The Normal Distribution	2, 5, 8, 10, 14, 17, 19, 20.
Week 15 (Dec 24 – 28)	Suppl. Material	Frequency Distributions Measures of Central Tendency Measures of Variation	

Final Exam (Comprehensive): As posted on the Registrar Website