

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

(Term 172)

Math 131: FINITE MATHEMATICS

Instructor: Musawar Amin Malik

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Office Hours: UT 11:00 am – 12:30 pm, M 12:00 – 1:30 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>	5%
<i>First Major Exam. (Sections: 1.1, 1.3, 3.1-3.6, 6.4-6.5)</i> <i>Tuesday February 20, 2018</i>	20%
<i>Second Major Exam (Sections: 5.1 – 5.4, 7.1-7.4, 7.8)</i> <i>Tuesday March 27, 2018</i>	25%
<i>Third Major Exam (Sections: 8.1-8.6)</i> <i>Tuesday April 17, 2018</i>	20%
<i>Final Exam (Comprehensive)</i> As posted on the Registrar Website	30%

A STUDENT MUST SCORE AT LEAST 50% TO PASS THE COURSE

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

SCEDULE AND COVERAGE OF MATERIAL

WEEK NO. (Dates)	Sections	Topics	Homework Problems
WEEK 1 (Jan 21 – Jan 25)	1.1 1.3	Applications of Equations Applications of Inequalities	4,16,20,28,33,36,43 1,2,3,4,5,6,7,10,12
WEEK 2 (Jan 28 – Feb 1)	3.1 3.2 3.3	Lines (Review) Applications and Linear Functions Quadratic Functions	12,30,58,64,67,69,71 16,17,20,24,25,27,31 27,29,31,32,34,36,37,39,40
WEEK 3 (Feb 4 – Feb 8)	3.4 3.5 3.6	Systems of Linear Equations Nonlinear Systems Applications of Systems of Equations	26,28,29,30,37,38,40. 4,7,9,11,13,14,15,16. 7,8,16,18,19,20,21,22,25.
WEEK 4 (Feb 11 – Feb 15)	6.4 6.5	Solving Systems by Reductions Solving Systems by Reductions (cont.)	17,18,24,27,29,31,32,33. 2,4,7,10,13,19,21,22,23,24.
WEEK 5 (Feb 18 – Feb 22)	7.1 7.2	Linear Inequalities in Two Variables Linear Programming	16,18,21,22,24,28,29 6,11,14,15,16,18,19
WEEK 6 (Feb 25 – Mar 1)	7.3 7.4	Multiple Optimum Solutions The Simplex Method	1, 2, 3, 4. 5,8,12,13,15,16,18,19.
WEEK 7 (Mar 4 – Mar 8)	7.8	The Dual (Exclude Example 3)	3,4,5,7,8,9,10,13,14,15.
WEEK 8 (Mar 11 – Mar 15)	5.1 5.2	Compound Interest Present Value	8,10,11,13,18,20,21,24,25 8,10,11,14,17,18,19,21,22
WEEK 9 (Mar 18 – Mar 22)	5.3 5.4	Interest Compounded Continuously Annuities	3,4,6,10,12,14,17,18,19,20. 14,15,17,22,24,27,29,30,34.
WEEK 10 (Mar 25 – Mar 29)	8.1 8.2	Basic Counting Principle and Permutations Combinations and Other Counting Principles	3,4,6,7,8,9,10,19,22,25,26, 29,30,32,35,36,37,38,42. 10,11,14,18,20,23,25,29,30,31, 32,33,37,38.
WEEK 11 (Apr 1 – Apr 5)	8.3 8.4	Sample Spaces and Events Probability	3,6,9,14,22,26,27,28,29,31,32. 4,6,12,15,18,19,21,24,26,27,31,32,34.
WEEK 12 (Apr 8 – Apr 12)	8.5 8.6	Conditional Probability Independent Events	2,9,12,13,16,17,24,36,37,39,40,49,50. 2,4,9,13,20,23,28,29,30,32,35.
WEEK 13 (Apr 15 – Apr 19)	9.1 9.2	Discrete Random Variables and Expected Value The Binomial Distribution	3,4,6,9,11,12,13,15,16,18,21. 3,4,5,10,12,13,16,17,19.
WEEK 14 (Apr 22 – Apr 26)	16.2	The Normal Distribution	1,2,9,10,16,18,19,21,22.
WEEK 15 (Apr 29 – May 3)	Suppl. Material	Frequency Distributions Measures of Central Tendency Measures of Variation	

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