

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

(Term 161)

**Math 131: FINITE MATHEMATICS**

**Instructor:** Musawar Amin Malik

**Office:** Building 5, Room 306 Phone: 2396 Email: mmalik@kfupm.edu.sa

**Office Hours:** UTR 9:00 am – 11:00 am, M 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>Sunday October 16, 2016</i>	15%
<i>Second Major Exam (Sections: 6.4-6.5, 7.1-7.4, 7.8, 5.1-5.2)</i> <i>Wednesday November 9, 2016</i>	20%
<i>Third Major Exam (Sections: 5.3 - 5.4, 8.1-8.6, 9.1-9.2)</i> <i>Tuesday December 20, 2016</i>	20%
<i>Final Exam (Comprehensive)</i> <b>As posted on the Registrar Website</b>	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 18 – 21)	1.1 1.3	Applications of Equations Applications of Inequalities	4,12,16,20, 28, 33, 36, 43. 2, 4, 6, 7, 9, 10, 12.
Sep 22	National Day Holiday		
Week 2 (Sep 25– 29)	3.1 3.2 3.3	Lines (Review) Applications and Linear Functions Quadratic Functions	12, 32, 58, 64, 69, 71. 16, 17, 18, 20, 24, 26, 31. 27, 29, 31, 34, 36, 39, 40.
Week 3 (Oct 2 – 6)	3.4 3.5 3.6	Systems of Linear Equations Nonlinear Systems Applications of Systems of Equations	26, 28, 29, 34, 37, 39, 41. 6, 9, 12, 14, 15, 16. 8, 15, 17, 18, 19, 20, 25.
Week 4 (Oct 9 – 13)	6.4 6.5	Solving Systems by Reductions Solving Systems by Reductions (continued)	17, 23, 27, 29, 30, 31, 32. 6, 8, 10, 12, 19, 21, 24.
Week 5 (Oct 16 – 20)	7.1 7.2	Linear Inequalities in Two Variables Linear Programming	16, 18, 20, 22, 24, 28, 29. 10, 13, 14, 15, 16, 17, 18.
Week 6 (Oct 23 – 27)	7.3 7.4	Multiple Optimum Solutions The Simplex Method	1, 2, 3, 4. 5, 8, 12, 16, 17, 18, 19.
Week 7 (Oct30–Nov3)	7.8	The Dual (Exclude Example 3)	4, 10, 12, 13, 14, 15, 17.
Week 8 (Nov 6 – 10)	5.1 5.2	Compound Interest Present Value	8, 10, 12, 18, 19, 23, 24, 26. 4, 8, 10, 11, 14, 16, 21.
(November 13 – 17) Midterm Break			
Week 9 (Nov 20 – 24)	5.3 5.4	Interest Compounded Continuously Annuities	5, 10, 12, 14, 16, 19, 20. 16, 18, 22, 24, 26, 28, 29.
Week 10 (Nov27–Dec1)	8.1 8.2	Basic Counting Principle and Permutations Combinations and Other Counting Principles	6, 8, 10, 22, 25, 26, 29, 32, 35, 36, 38, 40. 10, 14, 18, 23, 25, 26, 30, 33, 38.
Week 11 (Dec 4 – 8)	8.3 8.4	Sample Spaces and Events Probability	3, 6, 3, 6, 9, 14, 22, 26, 28, 29. 4, 10, 16, 19, 21, 23, 24, 27, 31.
Week 12 (Dec 11 – 15)	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 18 – 22)	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 25 – 29)	16.2	The Normal Distribution	2, 5, 8, 10, 14, 17, 19, 20.
Week 15 (Jan 1 – 5)	Suppl. Material	Frequency Distributions Measures of Central Tendency Measures of Variation	
Week 16 (Jan 8)	Normal Thursday classes & last day of the classes for the term: Review		
Final Exam (Comprehensive): As posted on the Registrar Website			

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**DEPARTMENT OF MATHEMATICS & STATISTICS**  
*(Term 161)*  
**Math 131: FINITE MATHEMATICS**

**Instructor:** Prof. Bilal Chanane

**Office:** Building 5, Room 4 31 **Phone:** 2741 **Email:** chanane@kfupm.edu.sa

**Office Hours:** UTR 12:15 pm 13:30 pm in Room 225 and by Appointment

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

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Assessment for this course is described in the following table

<b>Activity</b>	<b>Weight</b>
5 quizzes	10%
First Major Exam	25%
Second Major Exam	25%
Final Exam (Comprehensive)	35%
Paper based and Online HW	5%

**Grade Assignment**

Score	87-100	80-87	75-80	70-75	65-70	60-65	55-60	50-55	50-
Grade	A+	A	B+	B	C+	C	D+	D	F

## COVERAGE

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