

King Fahd University of Petroleum & Minerals
Department of Mathematics and Statistics
Summer 2017 (Term 163)

SYLLABUS AND POLICY

Course : Math 131
Title : Finite Mathematics
Textbook : Introductory Mathematical Analysis for Business, Economics, and the life and Social Sciences, by Ernest F. Haeussler, Richard S. Paul, and Richard J. Wood.

Week	Date	Sec.	Material	Selected Problems
1	09/7 – 13/7 + Saturday 15/7	1.1 1.3 3.1 3.2 3.3 3.4 3.5 3.6	Applications of Equations Applications of Inequalities Lines (Review) Applications and Linear Functions Quadratic Functions (Review) Systems of Linear Equations Nonlinear Systems Applications of Systems of Eqns.	1,4,12,16,20,25,33,36,43 1,2,4,5,6,7,9,10,11,12 12,14,32,56,58,64,66,67,69,71,72 16,17,18,20,24,25,26,31 18,25,26,27,28,29,30,31,33, 34,36,39,40 10,16,25,26,28,29,34,37,38,39,41 4,6,7,9,10,12,13,14,15,16 5,7,8,15,16,17,18,19,20,21,25
2	16/7 – 20/7 Monday Quiz 1 1.1 → 3.6	7.1 7.2 7.3 6.4 6.5	Linear Inequalities in Two Var. Linear Programming Multiple Optimum Solutions Solving Systems by Reduction Solving Systems by Reduction	2,4,10,16,18,20,21,22,24,28,29 3,4,6,10,12,13,14,15,16,17,18 1,2,3,4 17,23,25,27,28,29,30,31,32 4,6,8,10,12,19,21,22,24
3	23/7 – 27/7 Monday Quiz 2 7.1 → 6.5	7.4 7.8 5.1 5.2	The Simplex Method The dual (Example 3 excluded) Compound Interest Present Value	4,5,8,12,14,16,17,18,19 4,6,9,10,12,13,14,15,17 2,8,10,12,18,19,20,23,24,26 2,4,6,8,10,11,14,16,17,18,19,21,22,24
4	30/7 – 03/8 Wednesday Exam 1 1.1 → 7.8	5.3 5.4 8.1 8.2	Interest Compounded Continuously Annuities Basic Counting Principle and Perm. Combinations. Other Count. Princip.	2,5,6,10,12,14,16,19,20 8,10,14,16,18,20,23,24,25 4,6,8,10,14,20,21,22,23,29,30,31,32,,36,,39,41 2,5,10,11,14,15,17,18,23,27,28,30,31,33,34,35
5	06/8 – 10/8 Monday Quiz 3 5.1 → 5.4	8.3 8.4 8.5 8.6	Sample Spaces and Events Probability Cond. Prob. and Stoc. Proc. Independent Event	2,3,6,7,8,9,14,22,26,27,28,29,30 4,10,16,18,19,21,23,24,27,29,31,32 2,9,11,12,14,16,17,23,24,26,36,37,38,39,49,51 2,4,7,8,13,14,15,20,23,25,27,28,29,31,32,35,36
6	13/8 – 17/8 Monday Quiz 4 8.1 → 8.6 Wednesday Exam 2 5.1 → 8.6	11.1 11.2 9.1 9.2	Freq. Dist. Measures (Suppl. Notes) Meas. of Variations (Suppl. Notes) Discrete Rand. Var. and Exp. Value The Binomial Distribution	1,2,4,9,11,13,15,20,22,23,25,35,36,37,39,43,45 2,5,7,8,10,12,13,24,26,33,36 3,4,5,6,9,11,12,13,15,16,18,20 4,5,10,12,13,15,16,17,19,20,21,22,23,24,25,26
7	20/8	16.2	The Normal Distribution	2,8,9,10,14,16,17,18,19,20,21,22

Grading Policy:

Quizzes: 20% / Essay / 20 minutes each

Exam 1: 20% / Essay / 90 minutes. **Wednesday, August 02 at 4:30 p.m. Room: 4-150.** [Sections: 1.1 → 7.8]

Exam 2: 20% / Essay / 90 minutes. **Wednesday, August 16 at 4:30 p.m. Room: 4-150.** [Sections: 5.1 → 8.6]

Final : 40% / MC / 150 minutes. **Tuesday, August 22 at 7:00 p.m. Room: tba.** [Sections: 1.1 → 16.2]

* DN policy will be adopted according to KFUPM regulations (from 9 absences)

* The questions of the quizzes and exams are based on the examples and exercises handled in class, homework, and similar exercises from the textbook.

* **No makeup** test will be given under any circumstance. If a student misses a test for a legitimate reason (e.g., medical emergency), his final grade will be determined based on the non-missed tests.

Learning Outcomes:

- Understand and explain a variety of mathematical structures that do not involve infinite processes and limits
- Solve systems of linear equations
- Perform matrix operations
- Solve linear programming problems.
- Apply formulas from the mathematics of finance to solve problems related to purchases and investments
- Use permutations and combinations appropriately
- Calculate probabilities
- Calculate expected values for random variables
- Compute variance and standard deviation
- Apply mathematical skills to practical problems such as input-output analysis, inventory planning, optimal production schedules, insurance probabilities, and traffic patterns

Office Hours and Contact Information:

Office hours : Sunday/Monday/Tuesday 11:00 a.m.-12:00 p.m.

Instructor : Salah-Eddine Kabbaj (صلاح الدين قَبَّاج), Office location: 5-428, Email: kabbaj@kfupm.edu.sa