

King Fahd University of Petroleum & Minerals
Department of Mathematics and Statistics
Summer 2016 (Term 153)

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	11/7 – 14/7 + Saturday 16/7	1.1 1.3 3.1 3.2 3.3	Applications of Equations Applications of Inequalities Lines (Review) Applications and Linear Functions Quadratic Functions (Review)	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
2	17/7 – 21/7 Monday Quiz 1 1.1 → 3.5	3.4 3.5 3.6 7.1 7.2	Systems of Linear Equations Nonlinear Systems Applications of Systems of Eqns. Linear Inequalities in Two Var. Linear Programming	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 2,4,10,16,18,20,21,22,24,28,29 3,4,6,10,12,13,14,15,16,17,18
3	24/7 – 28/7 Monday Quiz 2 3.6 → 7.3	7.3 6.4 6.5 7.4 7.8	Multiple Optimum Solutions Solving Systems by Reduction Solving Systems by Reduction The Simplex Method The dual (Example 3 excluded)	1,2,3,4 17,23,25,27,28,29,30,31,32 4,6,8,10,12,19,21,22,24 4,5,8,12,14,16,17,18,19 4,6,9,10,12,13,14,15,17
4	31/7 – 04/8 Wednesday Exam 1 1.1 → 7.8	5.1 5.2 5.3 5.4	Compound Interest Present Value Interest Compounded Continuously Annuities	2,8,10,12,18,19,20,23,24,26 2,4,6,8,10,11,14,16,17,18,19,21,22,24 2,5,6,10,12,14,16,19,20 8,10,14,16,18,20,23,24,25
5	07/8 – 11/8 Monday Quiz 3 5.1 → 5.4	8.1 8.2 8.3	Basic Counting Principle and Perm. Combinations. Other Count. Princip. Sample Spaces and Events	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 2,3,6,7,8,9,14,22,26,27,28,29,30
6	14/8 – 18/8 Monday Quiz 4 8.1 → 8.4	8.4 8.5 8.6	Probability Cond. Prob. and Stoc. Proc. Independent Event	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
7	21/8 – 25/8 Wednesday Exam 2 5.1 → 8.6	11.1 11.2 9.1	Freq. Dist. Measures (Suppl. Notes) Meas. of Variations (Suppl. Notes) Discrete Rand. Var. and Exp. Value	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
8	28/8 – 29/8 Monday Quiz 5 8.5 → 11.2	9.2 16.2	The Binomial Distribution The Normal Distribution	4,5,10,12,13,15,16,17,19,20,21,22,23,24,25,26 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 03 at 4:30 p.m. Room: 63-121.** [Sections: 1.1 → 7.8]

Exam 2: 20% / Essay / 90 minutes. **Wednesday, August 24 at 4:30 p.m. Room: 63-121.** [Sections: 5.1 → 8.6]

Final : 40% / MC / 150 minutes. **Wednesday, August 31 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 10:30-11:30 a.m.

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