King Fahd University of Petroleum & Minerals
Department of Mathematics and Statistics

Summer 2015 (Term 143)

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, **13th edition**.

Week	Date	Sec.	Material	Selected Problems
1	07/6 – 11/6	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 18,25,26,27,28,2930,31,33, 34,36,39,40
2	14/6 – 18/6 **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	21/6 – 25/6 **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	28/6 – 02/7 **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	05/7 – 09/7 **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
Ramadan Break				
6	26/7 – 30/7 **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	02/8 –06/8 **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	09/8 – 11/8 **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, July 01 at 4:00 p.m. Room: 4-150.** [Sections: 1.1 → 7.8]
Exam 2: 20% / Essay / 90 minutes. **Wednesday, August 05 at 4:00 p.m. Room: 4-150.** [Sections: 5.1 → 8.6]
Final : 40% / MC / 150 minutes. **Thursday, August 13 at 8:00 a.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 the exercises of 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 (صلاح الدين قباج), Office location: 5-428, Email: kabbaj@kfupm.edu.sa