KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS
Math 105 Syllabus, Term 252

Course Code and Name: Math 105, Finite Mathematics

Course Credit Hours: 3-0-3

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

Learning outcomes: Upon completion of this course, students should be able to

1. Formulate and solve business related problems using equations and inequalities.
2. Solve system of linear equations using matrices.
3. Solve linear programing problems graphically and by the simplex method.
4. Solve financial problems involving compound interest, present and future values, and annuities.
5. Demonstrate ability to count and use descriptive statistics and basic probability concepts.
6. Recognize the Binomial and Normal distributions and their applications in business.
7. Apply the Binomial and Normal distributions and their applications in business.

Grading Policy:

	Date	Time	Place	Materials	Percentage
Exam I (15 MCQ)	TBA	TBA	TBA	1.1- 7.2	25% (75 pts)
Exam II (15 MCQ)	TBA.	TBA	TBA	7.3 – 8.2	25% (75pts)
Final Exam (20MCQ)	TBA	TBA	TBA	Comprehensive	33.3% (100pts)
Homework & Attendance					6.7% (20 pts)
Group Activities					10% (30 pts)

Letter Grades: The letter grades will follow a grading curve, which depends on the average of all students in the course.

Exam Policy:

➢ No student will be allowed to take the exam if he/she does not bring his/her KFUPM ID, or National/Iqama ID, or Driver's License with him/her to the exam hall.
➢ Students are not allowed to have their mobiles, smart watches, or any electronic device inthe exam hall. A violation of this will be considered an attempt of cheating.
➢ A student must sit in the seat assigned to him/her. A violation of this will be considered an attempt of cheating.

Exam Questions: The questions of the exams are based on the examples, homework problems, and exercises in the textbook.

Cheating in Exams: Cheating or any attempt of cheating by use of illegal activities, techniques and forms of fraud will result in a grade of **DN** in the course along with reporting the incident to the higher university administration. Cheating in exams includes (but is not limited to)

➢ Looking at the papers of other students
➢ Talking to other students
➢ Using mobiles or any other electronic devices **including Smart Watch**

Missing an Exam: In case a student misses an exam (Exam I, Exam II, or the Final Exam) for a legitimate reason (such as medical emergencies), she/he must bring an official excuse from Students Affairs. Otherwise, she/he will get zero in the missed exam.

Attendance: Students are expected to attend all lecture classes.

➢ If a student misses a class, she/he is responsible for any announcement made in that class.

➤ A DN grade will be awarded to the eligible student after their instructors have warned them twice and who accumulates

- o 9 unexcused absences in lecture classes.
- o 15 excused and unexcused absences in lecture classes.

The Usage of Mobiles in Class: Students are not allowed to use mobiles for any purpose during class time. Students who want to use electronic devices to take notes must take permission from their instructor. Violations of these rules will result in a penalty decided by the instructor.

Academic Integrity: All KFUPM policies regarding ethics apply to this course. See the Undergraduate Bulletin on the Webpage of the Registrar.

Tips on How to Enhance Your Problem-Solving Skills:

- ❖ Make sure you understand the concepts and techniques of each section.
- ❖ Take notes during classes and study your notes, textbook, and, if available, lecture slides before your next class.
- ❖ Review the lecture to consolidate your learning and locate any missed points.
- ❖ Try always to solve the problems on your own first before reading the solution or asking for help.
- ❖ If you find it difficult to solve a certain type of problems, you should try more problems of that type.
- ❖ Try to make good use of the office hours of your instructor.
- ❖ Solve old exams as part of your preparation for the major exams and Final Exams.
- ❖ Last, but not least, consult your instructor whenever you feel you need help understanding a concept or solving a problem

Syllabus – A rough weekly guideline

Week #	Date	Section	Material	Suggested Problems
1	Jan 11-15	1.1	Applications of Equations	4,12,16,20, 28, 33, 36, 43.
		1.3	Applications of Inequalities	2, 4, 6, 7, 9, 10, 12.
2	Jan 18-22	3.1	Lines (Review)	12, 32, 58, 64, 69, 71.
		3.2	Applications and Linear Functions	16, 17, 18, 20, 24, 26, 31.
		3.3	Quadratic Functions	27, 29, 31, 34, 36, 39, 40.
3	Jan 25-29	3.4	Systems of Linear Equations	26, 28, 29, 34, 37, 39, 41.
		3.5	Nonlinear Systems	6, 9, 12, 14, 15, 16.
		3.6	Applications of Systems of Equations	8, 15, 17, 18, 19, 20, 25.
4	Feb. 1-5	6.4	Solving Systems by Reductions	17, 23, 27, 29, 30, 31,
		6.5	Solving Systems by Reductions (cont.)	32. 6, 8, 10, 12, 19, 21, 24.
5	Feb. 8-12	7.1	Linear Inequalities in Two Variables	16, 18, 20, 22, 24, 28,
		7.2	Linear Programming	29. 10, 13, 14, 15, 16, 17, 18.
Exam I: Date (*); Time (TBA); Material: (1.1-7.2)				
6	Feb. 15-19	7.3	Multiple Optimum Solutions	1, 2, 3, 4.
		7.4	The Simplex Method	5, 8, 12, 16, 17, 19.
Saudi Founding Day [February 22]				
Eid Al-Fitr Holiday [March 15-26]				
7	Feb. 22-26	7.8	The Dual (Exclude Example 3)	4, 10, 12, 13, 14, 15, 17.
8	March 1-5	5.1	Compound Interest	8, 10, 12, 18, 19, 23. 24, 26.
		5.2	Present Value	4, 8, 10, 11, 14, 16, 2

9	March 8-12	5.3 5.4	Interest Compounded Continuously Annuities	5, 10, 12, 14, 16, 19, 20. 16, 18, 22, 26, 28, 29.
10	March 29-April 2	8.1 8.2	Basic Counting Principle and Permutations Combinations and Other Counting Principles	6, 8, 10, 22, 25, 29, 32, 36, 38. 10, 14, 18, 23, 25, 26, 30, 33, 38.
Exam II: Date (*); Time (TBA); Material: (7.3-8.2)				
11	April 5-9	8.3 8.4	Sample Spaces and Events Probability	3, 6, 9, 14, 22, 26, 28, 4,10,16,19, 21, 23, 24, 27, 31
12	April 12-16	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.
13	April 19-23	9.1 9.2	Discrete Random Variables and Expected Value The Binomial Distribution	3, 4, 5, 9, 11, 15, 16, 18, 20. 4,5,10,12,17, 19, 20, 23, 25,26
14	April 26-30	16.2	The Normal Distribution	2, 10, 14, 17, 19, 20, 21.
15	May 3 -7	Suppl. Material	Frequency Distributions Measures of Central Tendency Measures of Variation	
16	May 10	Review/ Catching up	A Normal Sunday Class (**Review/ Catching up**)	
	Final Exam (Comprehensive): As posted on the Registrar Website			

Remark: Sinking Fund example 7&8 section 5.4 not included