KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS
Math 105 Syllabus, Term 223 (Academic Year 2023)
Course Coordinator: Mohammad Kafini, Email: mkafini@kfupm.edu.sa

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 (20 MCQs)	July 18, 2023	TBA	TBA	1.1- 7.2	25% (100 pts)
Exam II (20 MCQs)	Aug. 01, 2023	TBA	TBA	7.3 – 8.3	25% (100 pts)
Final Exam (28 MCQs)	TBA	TBA	TBA	Comprehensive	35% (140 pts)
Homework					5% (20 pts)
Class Work	▪ It is based on quizzes, class tests or other class activities determined by the instructor. ▪ The average (out of 40) of the class work of each section should be in the interval [28, 30].				10% (40 pts)
Total					100% (400)

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

Exam Policy:

➢ Student is not allowed to enter the exam hall without either KFUPM ID or Saudi/Iqama ID card.

➢ Students are not allowed to carry **mobile phones and smart watches** to the exam halls.

Exam Questions: The questions of the exams are based on 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 include: (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 and recitation 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 8 (20%) unexcused absences from lecture classes.
    o 13 (33%) excused and unexcused absences from 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 get 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	June 11-15	1.1 1.3 3.1 3.2 3.3	Applications of Equations Applications of Inequalities Lines (Review) Applications and Linear Functions Quadratic Functions	4,12,16,20, 28, 33, 36, 43. 2, 4, 6, 7, 9, 10, 12. 12, 32, 58, 64, 69, 71. 16, 17, 18, 20, 24, 26, 31. 27, 29, 31, 34, 36, 39, 40.
2	June 18-22	3.4 3.5 3.6 6.4 6.5	Systems of Linear Equations Nonlinear Systems Applications of Systems of Equations Solving Systems by Reductions Solving Systems by Reductions (cont.)	26, 28, 29, 34, 37, 39, 41. 6, 9, 12, 14, 15, 16. 8, 15, 17, 18, 19, 20, 25. 17, 23, 27, 29, 30, 31, 32. 6, 8, 10, 12, 19, 21, 24.
			Hajj Holidays 25 Jun to 8 July	
3	July 09-13	7.1 7.2 7.3 7.4	Linear Inequalities in Two Variables Linear Programming Multiple Optimum Solutions The Simplex Method	16, 18, 20, 22, 24, 28, 29. 10, 13, 14, 15, 16, 17, 18. 1, 2, 3, 4. 5, 8, 12, 16, 17, 19.
4	July 16-20	7.8 5.1 5.2 5.3 5.4	The Dual (Exclude Example 3) Compound Interest Present Value Interest Compounded Continuously Annuities	4, 10, 12, 13, 14, 15, 17. 8, 10, 12, 18, 19, 23. 24, 26. 4, 8, 10, 11, 14, 16, 2 5, 10, 12, 14, 16, 19, 20. 16, 18, 22, 24, 26, 28, 29.
5	July 23-27	8.1 8.2 8.3	Basic Counting Principle and Permutations Combinations and Other Counting Principles Sample Spaces and Events	6, 8, 10, 22, 25, 29, 32, 36, 38. 10, 14, 18, 23, 25, 26, 30, 33, 38. 3, 6, 9, 14, 22, 26, 28,
6	July 30-Aug 03	8.4 8.5 8.6 9.1 9.2	Probability Conditional Probability Independent Events Discrete Random Variables and Expected Value The Binomial Distribution	4,10,16,19, 21, 23, 24, 27, 31 2,10,14, 17, 23, 26, 37, 41, 47. 1, 6, 20, 23, 25, 27, 31, 32, 35. 3, 4, 5, 9, 11, 15, 16, 18, 20. 4,5,10,12,17, 19, 20, 23, 25,26
7	Aug 06-10	16.2 Suppl. Material	The Normal Distribution Frequency Distributions Measures of Central Tendency Measures of Variation	2, 10, 14, 17, 19, 20, 21.
8	Aug. 13-14	-	Cont. REVIEW and/or CATCHING UP	
		Final Exam (Comprehensive): As posted on the Registrar Website		