KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
Department of Mathematics & Statistics
Math 260 (131)
Syllabus
Coordinator: **Dr. Abdulaziz M. Alassaf**
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Course: Math 260 (Introduction to Differential Equations and Linear Algebra)

Text Book: Differential Equations and Linear Algebra, C. H. Edwards and D. E. Penny, Prentice Hall, Third Edition (2010).

Objectives: This course introduces elementary differential equations and linear algebra to students of Computer Science, Computer Engineering, System Engineering and Earth Sciences.

Week	Date	Section	Topic	Suggested Homework
1	Sep. 01 – Sep. 05	1.1 1.2	Differential Equations & Mathematical Models Integrals as General & Particular Solutions	4, 8, 10, 26, 30, 34, 40 4, 6, 7, 16, 18
2	Sep. 08 – Sep. 12	1.4 1.5	Separable Equations & Applications Linear First-Order Equations	1, 10, 24, 27, 33
3	Sep. 15 – Sep. 19	1.5 1.6	Linear First-Order Equations (contin.) Substitution Methods & Exact Equations	4, 10, 21, 26, 32 2, 8, 27, 40, 60
Monday September 23, 2013 National Day -Holiday				
4	Sep. 22 – Sep. 26	3.1 3.2	Introduction to Linear Systems Matrices and Gaussian Elimination	4, 13, 18, 23, 28 3, 10, 15, 28
5	Sep. 29 – Oct. 03	3.3 3.4	Reduced Row-Echelon Matrices Matrix Operations	4, 11, 25, 35 2, 9, 20, 25
The First Major Exam: Saturday October 05, 2013 (1.1 – 3.3)				
6	Oct. 06 – **Oct. 09**	3.5 3.6	Inverse of Matrices Determinants	6, 13, 18, 28 2, 4, 11, 32, 40, 46
Eid Al-Adha Vacation (Oct. 10 – Oct. 20)				
7	**Oct. 21** – Oct. 24	4.1	The Vector Space R^3	1, 6, 13, 16, 24, 26, 30
8	Oct. 27 – Oct. 31	4.2 4.3	The Vector Space R^n & Subspaces Linear Combination & Independence of Vectors	3, 8, 16, 19 1, 6, 12, 17, 26
9	Nov. 03 – Nov.07	4.4 5.1	Bases & Dimension for Vector Spaces Introduction: Second-Order Linear Equations	3, 8, 13, 16, 22 1, 11, 16, 19, 25, 28, 44
10	Nov. 10 – Nov.14	5.2 5.3	General Solutions of Linear Equations Homogeneous Equations with Constant Coefficients	2, 8, 13, 24, 26 1, 4, 14, 22, 28, 33, 38
11	Nov. 17 – Nov.21	5.5	Nonhomogeneous Eq's and Undetermined Coefficients Method of Variation of Parameters	47, 52, 57, 60
The Second Major Exam: Monday November 25, 2013 (3.4 – 5.5)				
12	Nov. 24 – Nov.28	6.1 6.2	Introduction to Eigenvalues Diagonalization of Matrices	2, 15, 24, 28, 36 2, 14, 25, 28
13	Dec. 01 – Dec. 05	6.3 7.1	Applications involving Powers of Matrices First-Order Systems & Applications	2, 10, 20, 26, 36 2, 8, 13, 18, 21
14	Dec. 08 – Dec. 12	7.2 7.3	Matrices & Linear Systems The Eigenvalue Method for Linear Systems	2, 4, 12, 16, 20, 25
15	Dec. 15 – Dec. 19	7.3 7.5	The Eigenvalue Method for Linear Systems (Contin.) Multiple Eigenvalue Solutions	4, 9, 18, 24, 26
16	Dec. 22 – Dec. 24*	7.5	Multiple Eigenvalue Solutions (Contin.) Catch up & Review	4, 10, 16, 28, 30

*Tuesday December 24, 2013 is a **Normal Thursday Classes**.

Grading Policy:

- **Major Exam-I: 20% (80 points)**
- **Major Exam-II: 25% (100 points).**
- **Final Exam: 40% (160 points) Comprehensive**
- **Class Work: 15% (60 points)** It is based on Quizzes (Minimum **4** quizzes), Homework & Attendance.

  The **average** (x out of 60) of the Class Work of the sections taught by the same instructor should be in the interval [36, 45].

Attendance:

KFUPM attendance policy will be enforced. A **DN grade** will be awarded to any student who accumulates **9 unexcused absences**.

Exam Questions:

The questions of the common exams are based on the examples, homework problems and the exercises of the textbook.

Missing one of the Two Common Major Exams-I or II:

No makeup exam will be given under any circumstance. When a student misses Exam-I or Exam-II for a legitimate reason (such as medical emergencies), his grade for that exam will be determined based on the existing formula which depends on his performance in the non-missing exam and in the final exam.

Academic Integrity:

All KFUPM policies regarding ethics apply to this course.