KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS
Department of Mathematics & Statistics
Math 260 (141)
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	Aug. 31 – Sep. 04	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. 07 – Sep. 11	1.4 1.5	Separable Equations & Applications Linear First-Order Equations	1, 10, 24, 27, 33
3	Sep. 14 – Sep. 18	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. 21 – Sep. 25	3.1 3.2	Introduction to Linear Systems Matrices and Gaussian Elimination	4, 13, 18, 23, 28 3, 10, 15, 28
Eid Al-Adha Vacation (Sep. 26 – Oct. 11)				
5	Oct. 12 – Oct. 16	3.3 3.4	Reduced Row-Echelon Matrices Matrix Operations	4, 11, 25, 35 2, 9, 20, 25
The First Major Exam: Thursday October 16, 2014 at 5:45 pm (1.1 – 3.3)				
6	Oct. 19 – Oct. 23	3.5 3.6	Inverse of Matrices Determinants	6, 13, 18, 28 2, 4, 11, 32, 40, 46
7	Oct. 26 – Oct. 30	4.1 4.2	The Vector Space R^3 The Vector Space R^n & Subspaces	1, 6, 13, 16, 24, 26, 30
8	Nov. 2 – Nov. 06	4.3 4.4	Linear Combination & Independence of Vectors Bases & Dimension for Vector Spaces	1, 6, 12, 17, 26 3, 8, 13, 16, 22
9	Nov. 09 – Nov.13	5.1 5.2	Introduction: Second-Order Linear Equations General Solutions of Linear Equations	1, 11, 16, 19, 25, 28, 44 2, 8, 13, 24, 26
10	Nov. 16 – Nov.20	5.3 5.5	Homogeneous Equations with Constant Coefficients Nonhomogeneous Eq's and Undetermined Coefficients	1, 4, 14, 22, 28, 33, 38 4, 12, 26, 32, 36
The Second Major Exam: Thursday November 20, 2014 at 5:45 (3.4 – 5.3)				
11	Nov. 23 – Nov.27	5.5 6.1	Method of Variation of Parameters Introduction to Eigenvalues	47, 52, 57, 60 2, 15, 24, 28, 36
12	Nov. 30 – Dec. 04	6.2 6.3	Diagonalization of Matrices Applications involving Powers of Matrices	2, 14, 25, 28 2, 10, 20, 26, 36
13	Dec. 07 – Dec. 11	7.1 7.2	First-Order Systems & Applications Matrices & Linear Systems	2, 8, 13, 18, 21 2, 4, 12, 16, 20, 25
14	Dec. 14 – Dec. 18	7.3	The Eigenvalue Method for Linear Systems	4, 9, 18, 24, 26
15	Dec. 21 – Dec. 25	7.5	Multiple Eigenvalue Solutions	4, 10, 16, 28, 30
16	Dec. 28*		Catch up & Review	

*Sunday December 28, 2014 is a **Normal Tuesday Classes**.

Grading Policy:

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

  The **average** (x out of 80) of the Class Work of the sections taught by the same instructor should be in the interval [48, 60].

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.