King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences

Syllabus Math 260 **Second Edition (2005)**

Semester II, 2005-2006 (052)
(Coordinator: Dr. M. Iqbal)

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, Second Edition (2005).

Week	Date	Section	Topic	Suggested Homework
1	Feb 12-16*	1.1 1.2	Differential Equations & Mathematical Models Integrals as General & Particular Solutions	2, 11, 20, 30, 32, 39 4, 6, 15, 18
2	Feb 18-22	1.4 1.5	Separable Equations & Applications Linear First-Order Equations	1, 10, 24, 27 2, 9, 23, 28
3	Feb 25-Mar 1	1.5 1.6	Linear First-Order Equations (contd.) Substitution Methods & Exact Equations	 2, 10, 22, 40, 50
4	Mar 4-8	3.1 3.2	Introduction to Linear Systems Matrices and Gaussian Elimination	2, 22, 24, 26 4, 8, 14, 28
5	Mar 11-15	3.3 3.4	Reduced Row-Echelon Matrices Matrix Operations	3, 10, 24, 35 3, 10, 20, 24
Saturday, March 18, 2006: Suggested Time for Exam I				
6	Mar 18-22	3.5 3.6	Inverse of Matrices Determinants	4, 12, 20, 28 2, 4, 12, 30, 40, 43
7	Mar 25-29	4.1 4.2	The Vector Space R^3 The Vector Space R^n & Subspaces	1, 6, 13, 16, 24, 26, 30 3, 8, 16, 19
8	Apr 3-5	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	Apr 8-12	5.1 5.2	Second-Order Linear Equations General Solutions of Linear Equations	1, 11, 16, 19, 25, 28, 44 2, 8, 13, 24, 26
10	Apr 15-19	5.3 5.5	Homogeneous Equations with Constant Coefficients Method of Undetermined Coefficients	1, 4, 14, 22, 28, 33, 38 4, 12, 26, 32, 36
Saturday, April 22, 2006: Suggested Time for Exam II				
11	Apr 22-26	5.5 6.1	Method of Variation of Parameters Introduction to Eigenvalues	47, 52, 57, 60 2, 15, 24, 28, 36
12	Apr 29-May 3	6.2 6.3	Diagonalization of Matrices Applications involving Powers of Matrices	2, 14, 25, 28 2, 10, 20, 26, 36
13	May 6-10	7.1 7.2	First-Order Systems & Applications Matrices & Linear Systems	2, 8, 13, 18, 21 2, 4, 12, 16, 20, 25
14	May 13-17	7.3 7.5	The Eigenvalue Method for Linear Systems Multiple Eigenvalue Solutions	4, 9, 18, 24, 26
15	May 20-24	7.5	Multiple Eigenvalue Solutions (contd.)	4, 10, 16, 28, 30
16	May 27-28		Catch up and Review	

* Thursday 16th February: Normal Saturday Classes

Final Examinations Period from 29 May to 8 June 2, 2006

- The Dates of Exam I and Exam II are suggested by the College of Sciences to avoid any conflicts with other exams.
- The date of the final exam will be announced by the Registrar. The Final Exam is comprehensive.
- KFUPM policy with regard to attendance will be enforced.
- MATLAB will be used whenever possible.

*. Mid Term Break April 1-2 2006.