

<b>Course Title:</b>	<b>Introduction to Differential Equations and Linear Algebra</b>
<b>Text Book:</b>	<i>Differential Equations and Linear Algebra</i>
<b>Author and Publisher:</b>	C. H. Edwards and D. E. Penny, Prentice Hall, <b>Second Edition (2005)</b>

Week	Date	Section	Topic	Homework
1	Feb 17-21	1.1 1.2	Differential Equations & Mathematical Models Integrals as General & Particular Solutions	2, 11, 20, 29, 32, 39 4, 6, 15, 18
2	Feb 24 -28	1.4 1.5	Separable Equations & Applications Linear First-Order Equations	1, 10, 24, 27, 29
3	Mar 3- 7	1.5 1.6	Linear First-Order Equations (contd.) Substitution Methods & Exact Equations	2, 9, 23, 28, 32(a), 36 2, 10, 22, 40, 50, 60
4	Mar 10 - 14	3.1 3.2	Introduction to Linear Systems Matrices and Gaussian Elimination	2, 22, 24, 26 4, 8, 14, 28
5	Mar 17-21	3.3 3.4	Reduced Row-Echelon Matrices Matrix Operations	3, 10, 24, 35 3, 10, 20, 24, 30
<b>Suggested Time for Exam I: Saturday, March 24, 2007</b>				
6	Mar 24 - 28	3.5 3.6	Inverse of Matrices Determinants	4, 12, 20, 28 2, 4, 12, 30, 40, 43
7	Mar 31- Apr 4	4.1 4.2	The Vector Space $\mathbf{R}^3$ and subspaces The Vector Space $\mathbf{R}^n$ & Subspaces	1, 6, 13,16,24,26, 30,33 3, 8, 16, 20
8	Apr 7-11	4.3 4.4	Linear Combination & Independence of Vectors Bases & Dimension for Vector Spaces	1, 6, 12, 17, 26 3, 8, 13, 16, 22
<b>Mid Term Break April 12 - 15</b>				
9	Apr 16 - 18	5.1 5.2	Second-Order Linear Equations General Solutions of Linear Equations	1,11,16,19,25,28,44,52
10	Apr. 21 - 25	5.2 5.3 5.5	General Solutions of Linear Equations (contd.) Homogeneous Equations with Constant Coefficients Method of Undetermined Coefficients	2, 8, 13, 24, 26, 38 1, 4, 14, 22, 28, 33, 38, 40, 42 4, 12, 26, 32, 36, 44
<b>Suggested Time for Exam II: Saturday, April 28, 2007</b>				
11	Apr 28-May 2	5.5 6.1	Method of Variation of Parameters Introduction to Eigenvalues	47, 52, 57, 60
12	May 5 - 9	6.1 6.2 6.3	Continued Diagonalization of Matrices Applications involving Powers of Matrices	2, 15, 24, 28, 36 2, 14, 25, 28 2, 10, 20, 26, 36
13	May 12 - 16	7.1 7.2	First-Order Systems & Applications Matrices & Linear Systems	2, 8, 13, 18, 21 2, 4, 12, 16, 20, 25
14	May 19 - 23	7.3 7.5	The Eigenvalue Method for Linear Systems Multiple Eigenvalue Solutions	4, 9, 18, 24, 26
15	May 26 - 30	7.5	Multiple Eigenvalue Solutions (contd.)	4, 10, 16, 28, 30
16	June 2		Catch up and Review	

- Please adhere to Dates of Maj I & Maj II as they are suggested by CSC to avoid conflicts with other exams.
- The Final Exam is comprehensive
- Minimal use of Software such as MATLAB/Mathematica may be introduced wherever possible
- Instructors are requested to assign special home work to be done using MATLAB/Mathematica