Introduction to Linear Algebra
Math 250, Section B1
Summer 2010

Textbook: Spence, Insel, and Friedberg: *Elementary Linear Algebra: A Matrix Approach*, 2nd Edition, Prentice Hall, 2008. (ISBN 978-0-13-187141-0)

Below is a listing of the topics to be covered in each lecture. This list is tentative and subject to change.

Lecture	Date	Sections	Topics
1	T 6/1	1.1, 1.2	Matrices, Vectors, and Linear Combinations
2	W 6/2	1.3 1.4	Systems of Linear Equations Gaussian Elimination
3	Th 6/3	1.6 1.7	Span of a Set of Vectors Linear Dependence and Linear Independence
4	M 6/7	1.7 2.1	Homogeneous Systems Matrix Algebra
5	T 6/8	2.3 App. E 2.4	Invertibility and Elementary Matrices Uniqueness of Reduced Row Echelon Form Inverse of a Matrix
6	W 6/9	2.5 2.6	Partitioned Matrices and Block Multiplication *LU* Decomposition of a Matrix
7	Th 6/10		Review for First Midterm
8	M 6/14		**FIRST MIDTERM EXAM**
9	T 6/15	3.1 3.2	Determinants; Cofactor Expansions Properties of Determinants
10	W 6/16	2.7 4.1	Linear Transformations Subspaces
11	Th 6/17	4.2 4.3	Basis and Dimension Column Space and Null Space of a Matrix
12	M 6/21	5.1	Eigenvalues and Eigenvectors
13	T 6/22	5.2 5.3	Characteristic Polynomial Diagonalization of a Matrix
14	W 6/23	5.5	Applications of Eigenvalues
15	Th 6/24		Review for Second Midterm
16	M 6/28		**SECOND MIDTERM EXAM**
17	T 6/29	6.1	Geometry of Vectors; Projection onto a Line
18	W 6/30	6.2 6.3	Orthogonal Vectors; Gram-Schmidt Process Orthogonal Projection; Orthogonal Complements
19	Th 7/1	6.4 6.5	Least Squares; Normal Equations Orthogonal Matrices
20	T 7/6	6.6	Symmetric Matrices; Quadratic Forms Spectral Decomposition for Symmetric Matrices
21	W 7/7		Catch up and review
22	Th 7/8		**FINAL EXAM**