Syllabus and Problems
Mathematics 250, Introduction to Linear Algebra, Section 17
Fall Semester 2004

Text: *Elementary Linear Algebra: A Matrix Approach*, Spence, Insel, & Friedberg, Prentice-Hall (ISBN # 0-13-716722-9).

Lecture	Date	Reading	Topics
1	9/1	1.1, 1.2	Matrices and Vectors
2	9/8	1.3	Systems of Linear Equations
3	9/13	1.4	Gaussian Elimination
4	9/15	1.6	Span of a Set of Vectors
5	9/20	1.7	Linear Dependence and Linear Independence
6	9/22	2.1	Matrix Multiplication
7	9/27	2.2	Applications of Matrix Multiplication
8	9/29	2.3	Invertibility and Elementary Matrices
9	10/4	2.4	Inverse of a Matrix
10	10/6	2.5	LU Decomposition of a Matrix
11	10/11	Exam 1	1.1-1.7, 2.1-2.4
12	10/13	3.1	Determinants; Cofactor Expansions
13	10/18	3.2	Properties of Determinants
14	10/20	4.1	Subspaces
15	10/25	4.2	Basis and Dimension
16	10/27	4.3	Column Space and Null Space of a Matrix
17	11/1	5.1	Eigenvalues and Eigenvectors
18	11/3	5.2	Characteristic Polynomial
19	11/8	5.3	Diagonalization of Matrices
20	11/10	5.5	Applications of Eigenvalues
21	11/15	Exam 2	2.5, 3.1-3.2, 4.1-4.3, 5.1-5.4
22	11/17	6.1	Geometry of Vectors
23	11/22	6.2	Orthogonal Vectors; Gram-Schmidt Process
24	11/29	6.2	Orthogonal Projection
25	12/1	6.3	Least-Squares
26	12/6	6.4	Orthogonal Matrices
27	12/8	6.5	Symmetric Matrices and Quadratic Forms
28	12/13	Review	

Note: This is an approximate syllabus only and because of differences in weekly schedules, some variations are to be expected.

Final Examination: Monday, December 22, 8-11 PM

Suggested Homework Problems
Mathematics 250

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