Math 308: Linear Algebra (Spring 1999)

Professor:	A. Greenbaum, C-434 Padelford, 543-1175
Office Hours:	M,W 1:30–3:00
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Web Address:	http://www.math.washington.edu/~greenbau Course materials: Click on "Math 308".

Text: *Introduction to Linear Algebra* by Johnson, Riess, and Arnold.

Some other good references (available in the Undergraduate Library) are: *Introduction to Linear Algebra* and *Linear Algebra and its Applications* by Gilbert Strang; *Applications of Linear Algebra* by Rorres and Anton.

Course Description: This course will cover:

1. Matrices and systems of linear equations: Gaussian elimination, matrix operations, linear independence and nonsingular matrices, matrix inversion, data fitting and least squares problems.
2. Vector spaces in R^n: Definition of a vector space, subspaces, dimension, bases, orthogonality.
3. Linear transformations from R^n to R^m: Matrix representations for linear transformations, change of basis, diagonalization.
4. Eigenvalues and eigenvectors: Determinants, characteristic polynomial, numerical methods for approximating eigenvalues.

There will be weekly homework assignments (with some MATLAB programming), two midterms, and a final. You will need an MSCC (or other) computer account. You can find information about the Mathematical Sciences Computing Center by typing: http://www.ms.washington.edu.

Grading: The final exam will count 30%, the two midterms will count 20% each, and the homework will count 30%.

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