Math 430/630, Fall 2003, Tentative Schedule:

Date	Section/Topic
W 8/27/03	First Day Handout; §1.1, 1.2 – Matrix Multiplication, Systems of Linear Equations
W 9/3/03	§1.4 – Cholesky Decomposition
M 9/8/03	§1.7 – Gaussian Elimination and the LU Decomposition
W 9/10/03	§1.8 – Gaussian Elimination with Pivoting
M 9/15/03	§2.1 – Vector and Matrix Norms
W 9/17/03	§2.2 – Condition Numbers
M 9/22/03	§2.3, 2.5 – Perturbing the Coefficient Matrix, Backward Stability
W 9/24/03	§2.7 – Backward Error Analysis of Gaussian Elimination
M 9/29/03	§3.1 – Discrete Least Squares Problem
W 10/1/03	§3.2 – Orthogonal Matrices, Rotators, and Reflectors
M 10/6/03	§3.4 – Gram-Schmidt Process
W 10/8/03	§3.3 – Solution of the Least Squares Problem
M 10/13/03	§4.1, 4.2 – Applications of the Singular Value Decomposition
W 10/15/03	§4.3 – The SVD and Least Squares Problem
M 10/20/03	§5.1 – Systems of Differential Equations
W 10/22/03	**Midterm Exam (Chapters 1–4)**
M 10/27/03	§5.3 – The Power Method

Date	Section/Topic
W 10/29/03	§5.5 – Reduction to Hessenberg and Tridiagonal Forms
M 11/3/03	§5.6 – The QR Algorithm
W 11/5/03	§5.8 – Use of QR Algorithm to Calculate Eigenvectors
M 11/10/03	§6.3 – Eigenvalues of Large, Sparse Matrices (Lanczos/ Arnoldi)
W 11/12/03	§7.1 – A Model Problem
M 11/17/03	§7.2 – The Classical Iterative Methods
W 11/19/03	§7.3 – Convergence of Iterative Methods
M 11/24/03	§7.6 – The Conjugate Gradient Method
W 11/26/03	§7.7 – Derivation of the CG Algorithm
M 12/1/03	§7.8 – Convergence of the CG Algorithm
W 12/3/03	§7.5 – Preconditioners
M 12/8/03	Review
M 12/15/03	**Final Exam**