Math 630, Spring 2006, Tentative Schedule:

Date	Section/Topic
Tu 1/31/06	First Day Handout; §1.1, 1.2 – Matrix Multiplication, Systems of Linear Equations
Th 2/2/06	§1.4 – Cholesky Decomposition
Tu 2/7/06	§1.7 – Gaussian Elimination and the LU Decomposition
Th 2/9/06	§1.8 – Gaussian Elimination with Pivoting
Tu 2/14/06	§2.1 – Vector and Matrix Norms
Th 2/16/06	§2.2 – Condition Numbers
Tu 2/21/06	§2.3, 2.5 – Perturbing the Coefficient Matrix, Backward Stability
Th 2/23/06	§2.7 – Backward Error Analysis of Gaussian Elimination
Tu 2/28/06	§3.1 – Discrete Least Squares Problem
Th 3/2/06	§3.2 – Orthogonal Matrices, Rotators, and Reflectors
Tu 3/7/06	§3.4 – Gram-Schmidt Process
Th 3/9/06	§3.3 – Solution of the Least Squares Problem
Tu 3/14/06	§4.1, 4.2 – Applications of the Singular Value Decomposition
Th 3/16/06	§4.3 – The SVD and Least Squares Problem
Tu 3/21/06	**Spring Break**
Th 3/23/06	**Spring Break**
Tu 3/28/06	**Midterm Exam (Chapters 1–4)**
Th 3/30/06	§5.1 – Systems of Differential Equations

Date	Section/Topic
Tu 4/4/06	§5.3 – The Power Method
Th 4/6/06	§5.5 – Reduction to Hessenberg and Tridiagonal Forms
Tu 4/11/06	§5.6 – The QR Algorithm
Th 4/13/06	§5.8 – Use of QR Algorithm to Calculate Eigenvectors
Tu 4/18/06	§6.3 – Eigenvalues of Large, Sparse Matrices (Lanczos/ Arnoldi)
Th 4/20/06	§7.1 – A Model Problem
Tu 4/25/06	§7.2 – The Classical Iterative Methods
Th 4/27/06	§7.3 – Convergence of Iterative Methods
Tu 5/2/06	§7.6 – The Conjugate Gradient Method
Th 5/4/06	§7.7 – Derivation of the CG Algorithm
Tu 5/9/06	§7.8 – Convergence of the CG Algorithm
Th 5/11/06	§7.5 – Preconditioners
Tu 5/16/06	Review
F 5/19/06	**Final Exam**