Math 630, Spring 2008, Tentative Schedule:

Date	Section/Topic
M 1/28/08	First Day Handout; §1.1, 1.2 – Matrix Multiplication, Systems of Linear Equations
W 1/30/08	§1.4 – Cholesky Decomposition
M 2/4/08	§1.7 – Gaussian Elimination and the LU Decomposition
W 2/6/08	§1.8 – Gaussian Elimination with Pivoting
M 2/11/08	§2.1 – Vector and Matrix Norms
W 2/13/08	§2.2 – Condition Numbers
M 2/18/08	§2.3, 2.5 – Perturbing the Coefficient Matrix, Backward Stability
W 2/20/08	§2.7 – Backward Error Analysis of Gaussian Elimination
M 2/25/08	§3.1 – Discrete Least Squares Problem
W 2/27/08	§3.2 – Orthogonal Matrices, Rotators, and Reflectors
M 3/3/08	§3.4 – Gram-Schmidt Process
W 3/5/08	§3.3 – Solution of the Least Squares Problem
M 3/10/08	§4.1, 4.2 – Applications of the Singular Value Decomposition
W 3/12/08	**Midterm Exam (Chapters 1–4)**
M 3/17/08	**Spring Break**
W 3/19/08	**Spring Break**
M 3/24/08	4.3 – The SVD and Least Squares Problem
W 3/26/08	§5.1 – Systems of Differential Equations

Date	Section/Topic
M 3/31/08	§5.3 – The Power Method
W 4/2/08	§5.5 – Reduction to Hessenberg and Tridiagonal Forms
M 4/7/08	§5.6 – The QR Algorithm
W 4/9/08	§5.8 – Use of QR Algorithm to Calculate Eigenvectors
M 4/14/08	§6.3 – Eigenvalues of Large, Sparse Matrices (Lanczos/ Arnoldi)
W 4/16/08	§7.1 – A Model Problem
M 4/21/08	§7.2 – The Classical Iterative Methods
W 4/23/08	§7.3 – Convergence of Iterative Methods
M 4/28/08	§7.6 – The Conjugate Gradient Method
W 4/30/08	§7.7 – Derivation of the CG Algorithm
M 5/5/08	§7.8 – Convergence of the CG Algorithm
W 5/7/08	§7.5 – Preconditioners
M 5/12/08	Review
M 5/19/08	**Final Exam**