Math 630, Spring 2005, Tentative Schedule:

Date	Section/Topic
Tu 2/1/05	First Day Handout; §1.1, 1.2 – Matrix Multiplication, Systems of Linear Equations
Th 2/3/05	§1.4 – Cholesky Decomposition
Tu 2/8/05	§1.7 – Gaussian Elimination and the LU Decomposition
Th 2/10/05	§1.8 – Gaussian Elimination with Pivoting
Tu 2/15/05	§2.1 – Vector and Matrix Norms
Th 2/17/05	§2.2 – Condition Numbers
Tu 2/22/05	§2.3, 2.5 – Perturbing the Coefficient Matrix, Backward Stability
Th 2/24/05	§2.7 – Backward Error Analysis of Gaussian Elimination
Tu 3/1/05	§3.1 – Discrete Least Squares Problem
Th 3/3/05	§3.2 – Orthogonal Matrices, Rotators, and Reflectors
Tu 3/8/05	§3.4 – Gram-Schmidt Process
Th 3/10/05	§3.3 – Solution of the Least Squares Problem
Tu 3/15/05	§4.1, 4.2 – Applications of the Singular Value Decomposition
Th 3/17/05	§4.3 – The SVD and Least Squares Problem
Tu 3/22/05	**Spring Break**
Th 3/24/05	**Spring Break**
Tu 3/29/05	**Midterm Exam (Chapters 1–4)**
Th 3/31/05	§5.1 – Systems of Differential Equations

Date	Section/Topic
Tu 4/5/05	§5.3 – The Power Method
Th 4/7/05	§5.5 – Reduction to Hessenberg and Tridiagonal Forms
Tu 4/12/05	§5.6 – The QR Algorithm
Th 4/14/05	§5.8 – Use of QR Algorithm to Calculate Eigenvectors
Tu 4/19/05	§6.3 – Eigenvalues of Large, Sparse Matrices (Lanczos/ Arnoldi)
Th 4/21/05	§7.1 – A Model Problem
Tu 4/26/05	§7.2 – The Classical Iterative Methods
Th 4/28/05	§7.3 – Convergence of Iterative Methods
Tu 5/3/05	§7.6 – The Conjugate Gradient Method
Th 5/5/05	§7.7 – Derivation of the CG Algorithm
Tu 5/10/05	§7.8 – Convergence of the CG Algorithm
Th 5/12/05	§7.5 – Preconditioners
Tu 5/17/05	Review
Th 5/19/05	**Final Exam**