CS 421 Numerical Analysis: Fall 1997

Instructor:

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Course Administrator:

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Lecture Time and Place:

MWF 1:25pm PH 213

Text:

Heath, *Scientific Computing: An Introductory Survey*

On Reserve at the Engineering Library:

Dennis and Schnabel, *Numerical Methods for Unconstrained Optimization and Nonlinear Equations*
Coleman & Van Loan, *Handbook for Matrix Computations*

Golub & Van Loan, *Matrix Computations*
Dongarra, Bunch, Moler & Stewart, *Linpack User's Guide*
Stewart, *Introduction to Matrix Computation*
Hager, *Applied Linear Algebra*

Prerequirements:

Linear Algebra and multivariable calculus
Programming at the level of CS222.

Objectives:

We discuss algorithms for solving linear system of equations (both direct and iterative methods), least squares problems, eigenvalue problems, nonlinear systems of equations and minimization. Fundamental issues in scientific computation are analyzed.

Course Requirements:

There will be one prelim, six assignments, and a final exam. The prelim will be on Oct. 10 and it accounts for 20% of the final grade, assignments 40% and the final exam 40%.

All the programming problems will be done in MATLAB. The assignments are to be handed in before the lectures of the due date.