MATH625/CSI740 — SPRING 2011

NUMERICAL LINEAR ALGEBRA

Instructor::	Dr. Harbir Lamba
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Office Hours:	Thursday 6.00–7.00 or by appointment.
Webpage:	http://math.gmu.edu/∼harbir/m625/

MATLAB links:	http://math.gmu.edu/html/help/matlab.html
OCTAVE links:	http://www.octave.org
SCILAB links:	http://www.scilab.org

Textbook:	Lloyd N. Trefethen and David Bau III, *Numerical Linear Algebra*, SIAM.
The Course:	Theory and development of numerical algorithms for the solution of a variety of matrix problems: linear systems, least squares problems, eigenvalue problems, and the singular value decomposition. Direct and iterative method, analysis of sensitivity to rounding errors, and applications.

The course will be graded on the basis of a midterm exam (Thursday March 24th), a (cumulative) final exam (May 12th) and two numerical projects that will be set during the term (dates to be announced). The midterm and the two projects will each be worth 20%. The final exam will be worth 40% of the marks. No outside materials will be allowed during the exams and no collaboration will be allowed on the projects.

In addition there will be homework problems set at the end of each class. These should not be handed in but you are STRONGLY advised to study them and write out your solutions properly. You are also encouraged to discuss these problems amongst yourselves and make use of the office hours. I will go through many of the homework problems in the following class and you will not benefit from this if you have not made a serious attempt at them beforehand.