ECE 174 Homework # 1, Due Thursday 9/30/10

Reading and Assumed Background

Students are assumed to have had a course in Linear Algebra, and therefore to already know the material in Chapters 1-3 of the assigned textbook and the material given in the Lecture Supplement on LU Factorization. Thus, there will be little or no formal review of fundamental Linear Algebra concepts (such as Matrix Operations, Gaussian Elimination, LU Factorization, Eigenvalues, and Eigenvectors), though there will mention of their *geometric meanings.*

To reiterate: Essentially, the material in Chapters 1-3 of the textbook is the presumed background knowledge for this course.

For the first homework assignment you should read the review material in Chapters 1-3 that is corresponds to the material in the Linear Algebra Review slides and the Lecture Supplement on LU Factorization. The textbook has a very strong (perhaps a primary) emphasis on numerical issues, which we will ignore for the most part. Thus *you do **not** have to read* Sections 1.4, 1.5, 1.6, 2.6, and most of 3.8-3.10. If you ever have an questions as to which sections can be ignored, please ask or email me for a clarification. *ECE 174 is **not** a course in **Numerical** Linear Algebra,* although numerical issues certainly are important.

Remember, the Solutions Manual is provided with the text. Furthermore, the textbook, Errata and the Solutions Manual are available at the book website

http://matrixanalysis.com

Homework

1. Do the following 10 problems from the Meyer textbook:

   1.2.8; 1.2.9; 2.1.3; 3.5.1; 3.6.3; 3.6.7; 3.7.5; 3.7.6; 3.7.8; 3.8.1