ECE 174 Homework # 1 – Due Thursday 10/5/2017

Assumed Background

Students are assumed to have had a prior course in Linear Algebra, and therefore to **already know** relevant material presented in Chapters 1-3 of the assigned textbook (see the reading requirements described below).

Thus, there will be little or no formal review of fundamental Linear Algebra concepts in lecture (such as Matrix Operations, Gaussian Elimination, LU Factorization, properties of determinants, properties of the trace, eigenvalues, and eigenvectors), though there will ample discussion of their geometric meanings.

To reiterate: the required reading, described below, is the presumed background knowledge for this course. This background is **not** reviewed in lecture.

Reading

For the first homework assignment you only should read the material in chapters 1-3 *that corresponds to* the review material provided in 1) the Linear Algebra Review slides, and 2) the Lecture Supplement on LU Factorization, both of which can be found on the class website. (I.e., you can skip the portions of chapters 1-3 that do *not* overlap with the review materials provided on the class website.)

The textbook has a very strong (perhaps a primary) emphasis on numerical issues, which are issues that 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.

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