Extra Credit Problem for EEL 5544
Due by 5 PM on Tuesday, December 11, 2007

This is an experiment. I have never done this before.
I am asking you (the student) to help me improve EEL 5544. If I think that your contribution will significantly improve this course, then I will award up to 10 bonus points to be added to your lowest exam score. All submissions will consist of a report. The report must list all of the sources (books, web pages, examples or problems from other classes) that you used.

There are many options for this extra credit work. The following are not necessarily meant to be mutually exclusive. In other words, your report may address more than one of these items. Nor is this list exhaustive. Please be creative!

1. Identify a lecture or topic that I covered for which the presentation could be improved. Explain what the problems with the current presentation are and how they can be improved. Simply identifying typographical errors is not sufficient. Providing a description that is more accessible to students is required. If you know or are willing to try LaTeX, I can provide you with the source for the lectures that you wish to work on.

2. Create one or more new examples for use in lectures. Ideally, these examples would be motivated by real engineering problems. Explain why these examples are better than the ones currently used in class if there are currently examples for the same material. Examples that can take advantage of mathematical tools, such as Matlab or Mathematica, are welcome.

3. Create one or more new homework problems. It is preferable if these are motivated by real engineering problems.

4. Identify one or more new topics that should be presented in class. Justify why the topic is important and provide lecture notes (handwritten is okay) for the material.

5. Design a guided study that will allow students to learn some course material on their own as efficiently or better than if I taught it in class. For instance, the study might include lecture notes, examples, and MATLAB exercises that illustrate the concepts and/or test the student’s understanding.

6. Identify ways to make one or more lectures more interactive, while not taking away from the amount of material that can be presented. For instance, design a pre-class lecture that students would have to watch on video before coming to class, a mini-lecture that builds on the pre-class lecture, and a collaborative exercise among students that requires students to work together to understand the material.

7. Tell me how to make this course more fun.

8. Identify a way for me to use new technologies in the class in a meaningful and constructive way. See http://www.citt.ufl.edu/toolbox/, for example. Note that I do not wish to use any such techniques unless they add value to the class.

9. A group of students could work together to build a mind map of the course. Any such mind map is only useful if it can be provided to other students, for instance, using the web. Also, the mind map is most beneficial if it can be modified by myself or other students over time.