Note: This HW is optional. It will not be returned; if you want a copy of your work, make a photocopy before handing it in. The score for this HW will not count unless you end up “on the border” between two final grades at the end of the semester. In such cases, your effort and the potential usefulness of your questions and solutions will be taken into account, and may in some cases push you to the higher final letter grade for the course.

This homework set is designed to help you study for the final exam. It is also good practice for those of you who will go on to be faculty members one day. It is okay (not required, but recommended) that you get one or two other students in the class to try your question(s) to see if they are well posed, and to give those students some additional practice for the final exam. In other words, get one or two other students to “vet” your problems!

As for the questions themselves, you are welcome to get inspiration from other courses, from textbooks, from the Internet, etc. I prefer original questions that you make up on your own; however, if your question is inspired by some other author, give that author the appropriate credit by writing down the reference (title, author, year, page number, URL for Internet downloads, etc.). In no case should you copy directly from some other source.

You may create as many of either of these types of problems as you wish. The more the better, but I prefer a few excellent problems rather than dozens of not-so-great problems. Try to be clever. Humor is always appreciated 😊.

1. Make up your own homework problem(s). For each problem, provide the problem statement, the point value you would recommend, and a detailed solution. The problems can be from any subject covered in our course during the semester, and can be either analytical or computational. If your solution requires Matlab or Excel or EES, send me your .m or .xlsx or .EES file as an attachment in an e-mail to me.

2. Make up your own closed-book exam problem(s). They can be True/False, Multiple Choice, Matching, or Completion problems. The problems can be from any subject covered in our course during the semester. For each problem, provide the problem statement and its recommended point value, along with a detailed solution.

3. Additional options:
   - Construct a class demo that could be used in class to enhance learning. Note that the demo must be self-contained and small and light enough to carry easily to class.
   - Create a video that demonstrates and/or explains something that we discussed in class. I am looking here for original videos, not just a link to someone else’s YouTube video, although you may get some inspiration from existing videos. [Note that I do appreciate being informed of existing YouTube videos that would enhance our class.]
   - Think of something else “outside the box!”