

## Homework 3

Psychology 312

*Instructions.* Feel free to email me for hints if you get stumped.

Your assignment for this week is straightforward. It is intended to provide a thorough review of the matrix algebra we have learned so far. Rencher's book on multivariate analysis is an excellent "mid to upper" level text. If you can master the material in this chapter, you have advanced about as far as you need to in matrix algebra.

- Download Rencher Chapter 2 from the *Statistics Handouts* section of the course website.
- Read the Chapter. You will note that it repeats, with slightly different notation, much of the material we discussed in class. So you should be able to breeze through much of it very quickly. It also contains a section on *determinants*. We did not cover this material in class, and I want to see how you do trying to master material such as this on your own.
- To test your mastery, I want you to work all the *odd-numbered* problems in the chapter except for number 35 (which is optional for extra credit), preferably using R as much as possible. You can also use my little function library available in the *R Code and Support Materials* on the website. Alternatively, you can create your own functions.
- If you use R, please include all the R input lines and output lines in what you hand in.

*Note:* Rencher has published the solutions to all these problems in his book. I will provide you with those solutions after you hand in your work. If you get stumped, ask me for help. Please do not seek the solutions out on the web or in the library — it will definitely spoil the experience for you!!