Exam 1 Review
(100 points total)

Midterm Exam: 10/31/12
You will have the full 2 ½ hours to complete the exam if you need it, although it is designed to take about one hour.

Short Essay (40 points)
There will be 2 short ‘essay’ questions worth 20 points each. These are open-ended questions on definitions and concepts. Answers should be about 1 paragraph. I will pick 2 of the following questions:

- Results from a simultaneous multiple regression analysis include an $R^2$ value and regression coefficients. Conceptually, how does the information provided by the model $R^2$ value and a regression coefficient differ? If a hierarchical regression is conducted entering each of two variables on a separate step, an $R^2$-change value is obtained. What does the $R^2$-change value represent and how does it relate to the $R^2$ and regression coefficients from the simultaneous regression?

- Assume you need to do find out if there are differences in voter enthusiasm (a continuous measure) among 3 nominal categories of political party affiliation (i.e., Democrat = 0, Republican = 1, Independent = 3) for the coming presidential elections. You need to control for an index of voter likelihood. Name two major approaches to investigating the differences among the three groups that were discussed in class and describe how you would use them in the analysis. Be sure to state specifically how these two approaches are similar and different.

- Multiple regression provides information about partial relationships. Describe what is meant by this term and why partial relationships are useful. How is a multiple regression coefficient different from a simple regression coefficient, and under what conditions will they be the same.

- Name and describe three assumptions of regression analysis.

Multiple Choice (30 points)
There will be 15 multiple choice questions worth 2 points each. These may be on any of the assigned reading or the lecture material up to and including 10/24/12. The purpose of these questions is to make sure you have read the material and learned the concepts from the text and class lecture.

Computations and Interpretation of Results (30 points)
There will be two computational or printout interpretation questions (15 pts each). You may bring a single sheet of 8 1/2 X 11 paper, using both sides, with any formulas that you think you may need. (Note: this sheet can only be used for the computation portion of the exam.) Please bring a calculator to class. I will supply any statistical tables you might need. These questions may include one or more of the following:

**Computations:** $r$ from raw data, $B$ from raw data; intercept; $\beta$ from $B$; t-test from $B$ and $SE_B$.

**Interpretation:** SPSS simple regression printout; SPSS multiple regression printout (hierarchical or simultaneous); intercept, standard error, $R^2$; $B$; $\beta$; t-test; F-test; $R^2$-change; F-change; scatterplot, drawing and labeling a Venn diagram based on regression output.