**Class Activities**

Chapter Twelve: Analysis of Variance

Activity #1 (Group or individual)

The below activity was also given in Chapter Nine, Activity #1. Students may redo the activity or use the data from Chapter Nine’s activity to complete Activity #2.

Many colleges and universities keep detailed records about their respective student populations such as entrance statistics, majors and minors, etc. Ask students to locate this type of information for your university. Ask students to focus on obtaining information by group (e.g., sex, race/ethnicity, class rank, etc.). For instance, the University of Wisconsin-Madison’s Office of the Registrar keeps detailed enrollment records on various student groups of interest (http://www.registrar.wisc.edu/students/). Once students have located the data for your university, ask them to import the data into SPSS. Ask each group to describe these data using measures of central tendency and variability.

Activity #2 (Group or individual)

Using data from Class Activity #1, have students use the ANOVA capabilities in SPSS to conduct an *F* test. Make sure students organize the data in such a way that they use two variables in their SPSS spreadsheet. The first variable will be the dependent variable (e.g., SAT scores). The second variable should be an indicator which captures the group respondents fall in. For example, students may code males with “0” and females with a “1.” This will allow SPSS to run the analysis. Have students identify the relevant statistics in the output as they were discussed in Chapter Twelve. Ask students to discuss whether or not the results make intuitive sense. Why or why not?

Activity #3 (Group)

Have students attempt to replicate their results from Class Activity #2 by hand. Each small group member should be responsible for completing one section of conducting an *F* test. Once each group member has completed their work, have them come together and assemble the pieces. Do their results line up with the SPSS output? Ask students to locate any mistakes in their work and retry

Activity #4 (Group or individual)

Provide students with 3-5 ANOVA tables produced from SPSS. Delete some of the statistics presented in the tables and have students fill in the blank. This activity provides students with exposure to SPSS tables and reiterates key statistics needed for ANOVA.

Activity #5 (Group)

Have students get together in groups to brainstorm on a research study they could conduct on campus comparing three or more groups. For example, they may look at GPA across different athletic teams, or they may examine number of hours spent on homework across different majors. Then have students go back and brainstorm on research studies they can do for a chi-square analysis and a regression analysis. Altogether, they should have three different research studies: one for ANOVA, one for chi-square, and one for regression.