Statistics 5301
Winter 1998

Exam #1 Data

Our first exam is Friday, Feb 6, in class. This exam is open book and open notes. Analyze the two data sets below and bring notes on your analysis to class. Answer the exam questions on these data from your notes. In your analyses, remember to check for assumptions and study interactions. Your analysis should go beyond just the ANOVA and what is significant; it should try to explain what is going on in the data.

This preliminary analysis should be considered part of your exam. Do your own work. Discuss these problems only with the instructor.

1) An experiment studied the effects of starch source, starch concentration, and temperature on the strength of gels. This experiment was completely randomized with 16 units. There are four starch sources (adzuki bean, corn, wheat, and potato), two starch percentages (5% and 7%), and two temperatures (22° C and 4° C). The response is gel strength in grams. Data may be found in the file gel.dat on the class web page.

Analyze these data to determine the effects of the factors on gel strength.

2) An animal nutrition experiment was conducted to study the effects of protein in the diet on the level of leucine in the plasma of pigs. Pigs were randomly assigned to one of twelve treatments. These treatments are the combinations of protein source (fish meal, soybean meal, and dried skim milk) and protein concentration in the diet (9, 12, 15, or 18 percent). The response is the free plasma leucine level in mcg/ml. The data may be found in the file leucine.dat on the class web page.

Analyze these data to determine the effects of the factors on leucine level.

3) The following questions are not to be turned in: E11.3, P11.4, E12.1, E12.4, P13.1(a,c,d)