Everyone,

The second intellectual festival will cover all of the material in Chapters 6 through 9 and the categorical data portion of Chapter 5. The festival will have questions from the following list:

1) 12 multiple choice questions. These tend to be questions related to specific facts (e.g., definitions & symbols) or very short calculations.

2) [8 pts] percentage table calculations from a two-way frequency table (e.g., row, column, table percentages).

3) [11 pts] Linear regression questions (some subset of the 12 typical questions that I ask). This will require you to examine a fitPlot() with a best-fit line superimposed with the best-fit equation and r^2 included. You will need to compute predictions, residuals, and correlations from the given results (i.e., you will need a calculator)

4) [7 pts] Experimental design questions (what is response, factors, etc.)

5) [8 pts] "What is the probability …" questions (similar to chapter 4, 8 and 9 questions). This will require you to use distrib() in R. The R help below will be provided to you at the exam.

6) [9 pts] Three (out of five) short answer (paragraph-length) questions. These are generally related to major concepts, several of which I have rather pointedly hinted at in class.

```
library(NCStats)
distrib(x,mean=##,sd=##,lower.tail=XXXXX,type="X")
```

```
where x is replaced with the value of the quantitative variable or the area

      mean=## has ## replaced by the value of the mean

      sd=## has ## replaced by the value of the standard deviation or standard error

      lower.tail=XXXXX has XXXXX replaced with TRUE (the default) for a "left-of" and
        FALSE for a "right-of" calculation

      type="X" has X replaced with p (the default) for a forward and q for a reverse
        question
```

```
sqrt(x)
```

The exam is closed book, closed notes, etc. You should bring a calculator and you MUST use a pencil. Exams written in red or purple ink will not be accepted. In full disclosure -- there will be multiple versions of the exam so please do not embarrass yourself, and earn an "F" for the class, by cheating from your neighbor. Your RStudio must open with either no scripts or a blank script – i.e., the upper left pane must not have any previously entered R code in it. Opening any other software or previous script will result in an automatic "F" for the class. In addition, I may monitor computer usage and you will only be allowed to open RStudio.

The exam will start promptly at the beginning of class (on the hour) and will end promptly 1 hour and 50 minutes later. Please let me know ASAP if you have any conflict with staying 20 minutes past our usual class ending time.