22s:152 Applied Linear Regression

Final Exam

• Friday, December 16th, 7:30am-9:30am in this classroom.

• It will be comprehensive.

• You can use both sides of two - 8.5”x11” pieces of paper for notes (or 4 single sides).

• The three midterms will be a good study tool.
Some things to look for on final exam:

- If given a description of the data, how it was collected, and the goal of the study, be able choose the most appropriate type of analysis from a list.

- Know how to interpret R output and plots, and read results and answer questions.

- There will also be some short answer.

- There will be some true false.

- There will be some data analysis problems (understanding context of problem, reading and interpreting R output, etc.)
• Topics after Exam 3:
  1. Poisson Regression
     - What type of data you might use it for.
     - Assumptions.
  2. Lowess scatterplot smoothing
     - General idea behind the fit.
  3. Bootstrap
     - When might you want to use it?
     - General concept behind the procedure.

• Topics from Exams 1, 2 and 3:
  1. Investigating data, transformations
  2. Simple linear regression
  3. Multiple regression
  4. Dummy variables
  5. Multicollinearity in multiple regression
  6. One-way ANOVA
  7. Two-way ANOVA (balanced design)
8. Diagnostics I & II
   – outliers: leverage, studentized residuals
   – influence
   – checking assumptions

9. Model selection

10. Logistic regression