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and by appointment

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**Office Hour:** Thursday 3:30 – 4:30 P.M.

**Course Time:** MWF 8:50 – 9:40 A.M.  
**Room:** 1257 CSSC  
**Textbook:** *The Statistical Sleuth*, Second Edition, by Ramsey and Schafer

**Prerequisites:**

Officially, the prerequisite is consent of the instructor. In practice, if you have taken at least one previous statistics course, you will have sufficient background for the course.

**Statistical Software:**

Several homework assignments will require the use of statistical software. I will use R at times in lecture. There may be R output on exams, but I will not test you on your ability to use R. If you have another favorite statistical software package you would prefer to use, you may. However, you may not expect any software support from the TA or myself for statistical software other than R.

R is free open-source software. The software's homepage is <http://cran.r-project.org/>, but the U.S. mirror, <http://cran.us.r-project.org/>, located in the Statistics Department here at UW will be much faster. You may download it onto your personal computer (Linux, Windows, or Mac) from the R website. R is also available in several campus locations including the computer lab in Union South, on the CAE system, and in the CALS computer lab in the basement of the Animal Sciences building.

**Course Objectives:**

The primary course objectives are for the students enrolled in the course: (1) to develop mastery of statistical concepts in a regression setting; (2) to develop the ability to apply these concepts correctly using statistical software; (3) to develop the ability to interpret the results of an analysis properly; and (4) to develop the ability to communicate effectively in writing the results and proper interpretation of a statistical analysis to a non-statistical audience.

**Grading:**

Semester grades will be based on your performance on homework (20%), three tests (20% each), and a final examination (20%). You may replace your lowest test score with the score from the final examination if this is in your favor. All tests are cumulative (but will emphasize the most recent material). Make-up exams are only available in exceptional circumstances, with prior notice and my approval.

**Homework:**

Your homework solutions should be **written up with a Word processor**, although you can hand write in graphs, sketches, figures, and mathematical notation. Each problem solution should include a brief description of the problem (that may be paraphrased from the actual problem) as well as the solution. Take care to see that your written homework solutions are clear and easy to read.

**Course Web Page:**

The course Web page will include an anticipated schedule including test dates, homework assignments, supplementary notes, help for R, and other information useful for the course. You will be able to access the course web page from my home page, <http://www.stat.wisc.edu/~larget/>.

**Topics:**

The course web page will have a detailed schedule that will evolve as the course progresses. My intention is to cover most of Chapters 1–14 and 20–22. Chapters 1–6 will be a review to many students in the course and we will go over this material quickly. Chapters 7–8 discuss simple linear regression, Chapters 9–12 cover multiple regression, Chapters 13–14 discuss two-way analysis of variance, while Chapters 20–22 are special cases of generalized linear regression with discrete response variables (Bernoulli, Binomial, and Poisson, respectively). The textbook emphasizes statistical concepts over mathematical derivations, and, in fact, does not use the matrix formulation of regression. I will supplement the textbook with this important mathematical topic at appropriate points in the semester.

**Academic Honesty:**

You are permitted and, in fact, *encouraged* to talk to other students, your teaching assistant, or me about homework. You may look through books or Web pages for solutions to problems. However, you may not present other people's work as your own. Please include with any submitted solutions to problems references to any sources of direct assistance. If you work with other students solving problems, make sure that you write up your own solution independently. It is not acceptable for one student to write a solution for another student to copy.