1 General Information

Instructor:     Kate Cowles, 374 SH, 315/0727
                kcowles@stat.wisc.edu
Office hours:  T 1:30-2:30 p.m.,
               W 12:30-1:30 p.m.,
               Th 12:00-2:45 p.m.,
Please feel free to make appointments to see me outside of office hours,
and to send me questions by e-mail.

Department:     Statistics and Actuarial Science, 241 SH
                luke.tierney@wisc.edu

Lectures: M, W, F 61 SH  
8:30 - 9:30 (Section 1), 10:30-11:20 (Section 2)
Lab:       Alternate W (instead of lecture) 41 SH
Handouts, homework assignments, data sets, etc.,
will be posted on the web page for you to download.

2003, Freeman

Recommended resources: Delwiche and Slaughter, The Little SAS Book, 3rd ed.,
2003, SAS Institute

Other materials:  3.5/2 in. floppy disk

2 Course goals and objectives

Through hands-on experience with real data from a wide variety of applications, students
will learn basic methods required for data analysis and interpretation. The emphasis will be
on formulating questions, choosing appropriate statistical techniques for a given problem,
verifying whether the assumptions behind the technique are met by the dataset, drawing
appropriate conclusions from the analysis, and communicating the results. Students will
learn the basics of SAS, a statistical software package that is widely used in business,
industry, government, and research.

3 Evaluation of students

3.1 Homework

In general, homework will be assigned each Fri., and will be due the following Fri.
Exceptions to this schedule will be announced in class.
Show your work when solving written homework problems. For computer problems, turn
in printouts of your commands or programs and their output.
You are encouraged to study with others, however, if you do work with others on home
work assignments, please: a) write up your own assignment and make sure you completely
understand all solutions that you submit, and b) write the names of the others in your
study group on your assignment.
Late homework is accepted only at the discretion of the instructor, i.e., due to "illness, mar-
"flory religious obligations, or other unavoidable circumstances or University activities."

3.2 Exams

There will be three 1-hour midterm exams and one comprehensive 2-hour final. One of the
exams may be held in the evening. Students may bring one 8.5 x 11 in. sheet of paper
with notes to each in class exam,
Midterm 1 week of 2/21
Midterm 2 week of 3/28
Midterm 3 week of 4/25
Final exam Date pending

Missed exams may be made up only with documentation of reason required by university
policy (see "Late Homework" above).

3.3 Projects

Students will work in groups of three to carry out projects involving application of the
statistical methods covered in the course to problems of their own choosing. I will be happy
to work with you at each stage of your project. Each pair of students will:
• Formulate a research question
• Obtain a dataset that can be used to address this question; you may
  collect your own data,
  obtain a dataset from the web, from a book, from an instructor in your major
  field, or from some other source, or
  see me for a choice of datasets
• determine an appropriate method of analysis
• use SAS to check the data
• use SAS to carry out the analysis
• report and interpret the results

I will expect more sophisticated projects from graduate students.
Projects will be carried out in three phases. Please meet with me at least once while you are working on each phase.

• Project proposal (due 4/04) This is a detailed description of what you plan to do, including question(s) to be addressed, dataset to be used, methods to be applied, Also specify your intended method of presentation for the final project. (See below.)
• Project interim report (due 4/18) This informal report will indicate that your project is “on track.” It will include results obtained thus far and a brief summary (handwritten on O.K.) of what they mean and what remains to be done.
• Project presentation (must be posted or submitted by 5/02)
Projects must be finalized in a form that can be shared with the entire class, such as:
posting a document on the course web page
preparing a poster
giving an oral presentation with overheads, slides, or computer images

Posters and oral presentations will be given in class during the week of 5/02.

3.4 Grading

The course components will be weighted as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>10%</td>
</tr>
<tr>
<td>Midterms</td>
<td>32% (14% each)</td>
</tr>
<tr>
<td>Project</td>
<td>20%</td>
</tr>
<tr>
<td>Final</td>
<td>28%</td>
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</tbody>
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4 Additional Information

4.1 Resources for additional help

A list of independent tutors can be found at
http://www.stat.uiowa.edu/courses/tutor.html

4.2 Students with disabilities

If you have a disability that may require some modification of seating, testing, etc., please let me know as soon as possible so that we can put in place what you need. Please see me after class or during my office hours.

4.3 Student rights and responsibilities

University policies regarding Student Rights and Responsibilities can be found at
http://www.stat.uiowa.edu/students/academic_handbook/.

In particular, College of Liberal Arts and Sciences policies regarding academic misconduct
(academic fraud, dishonesty, cheating, and forgery), as well as procedures for student complaints about faculty actions, can be found at
http://www.stat.uiowa.edu/students/academic_handbook/ix.shtml.

4.4 College administering this course

This course is given by the College of Liberal Arts and Sciences. This means that class policies on matters such as requirements, grading, and sanctions for academic dishonesty are governed by the College of Liberal Arts and Sciences. Students wishing to add or drop this course after the official deadline must receive the approval of the Dean of the College of Liberal Arts and Sciences.
5 Syllabus

This approximate schedule will be updated as needed during the semester. [Revised 1/27/06]

1/19 - 1/21 Chapter 1, 2
1/24 - 1/26 Chapter 4
lab 1/26
1/31 - 2/04 Chapter 5
lab 2/02
2/07 - 2/11 Chapter 7, 8
2/14 - 2/18 Chapter 9
lab 2/16
2/21 - 2/25 Chapter 3, Chapter 10, midterm 1
02/28 - 3/04 Chapter 13, 14
lab 3/02
3/07 - 3/11 Chapter 14, 15
3/14 - 3/18 Spring Break
3/21 - 3/25 Chapter 15, 16
lab 3/23
3/28 - 4/01 Chapter 16, midterm 2
4/04 - 4/08 Chapter 17, 18
Project proposals due 4/04
lab 4/06
4/11 - 4/15 Chapter 18, 19, 20
4/18 - 4/22 Chapter 20, 22
Project interim reports due 4/18
lab 4/20
4/25 - 4/29 Chapter 21, midterm 3
5/02 - 5/06 Chapter 23, project presentations
Projects due 5/02
lab 5/04
Pending Final exam