1 General Information

Instructor:  Kate Cowles, 374 SH, 335 0727
            kcowles@stat.iowa.edu
Office hours:  T 1:30 – 2:30 p.m.
            W 12:30 – 1:30 p.m.
            Th 1:30 – 2:35 p.m.
Please feel free to make appointments to see me outside of office hours,
and to send me questions by email.
Department:  Statistics and Actuarial Science, 241 SH
DRO:  James D. Weisfitt, 241 SH 335 0712
Lectures:  M, W, F 61 SH
8:00 – 9:20 (Section 1), 10:30-11:20 (Section 2)
Lab:  Alternate W (instead of lecture) 41 SH
Web page:  http://www.stat.iowa.edu/~kcowsel/302_2004
Homework, homework assignments, datasets, etc.,
will be posted on the web page for you to download.
Recommended  Schlotzhauer and Littell, SAS System for Elementary Statistical
supplementary  Analysis, 1997, SAS Institute
Other materials:  3.1/2 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 techniques are met by the data, 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 Fô, and will be due in class the following Fô.
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 as required by university policy, i.e., due to "illness, manda-
tory religious obligations, or other unavoidable circumstances or University activity."

3.2 Exams

There will be three 1 hour midterm exams and one comprehensive 2 hour final. One of the
midterms may be held in the evening. Students may bring one 8 1/2 x 11 in. sheet of paper
with notes to each in-class exam.
Midterm 1  week of 2/28
Midterm 2  week of 3/20
Midterm 3  week of 4/26
Final exam  5/13, 4:30 p.m.
Missed exams may be made up only with documentation of reasons 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 4/15) 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 4/19) This informal report will indicate that your project is "on track." It will include results obtained thus far and a brief summary (handwritten) of what they mean and what remains to be done.
- Project presentation (papers must be posted or submitted by 5/03) 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 and making available an accompanying paper
  - giving an oral presentation with overheads, slides, or computer images and making available an accompanying paper

Posters and oral presentations will be given in class during the week of 5/03.

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>42% (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

The Statistics and Actuarial Science Department office keeps a list of private tutors.

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 the adviser or during my office hours.

4.3 Student complaints concerning faculty actions

Please see the College of Liberal Arts and Sciences Bulletin for details on procedures. In summary, if you are unhappy with something I do, please try first to resolve it with me directly. If that is unsuccessful, the matter should be taken up with the Statistics D.E.O.

4.4 Academic misconduct

Please see the College of Liberal Arts and Sciences Bulletin for UI policy regarding plagiarism and cheating.

5 Syllabus

This approximate schedule will be updated as needed during the semester.

1/21 - 1/25 Chapter 1, 2
1/26 - 1/30 Chapter 4
lab 1/28
2/02 - 2/06 Chapter 5
lab 2/06
2/09 - 2/13 Chapter 7, 8
2/16 - 2/20 Chapter 9
lab 2/18
2/23 - 2/27 Chapter 3, Chapter 10, midterm 1
3/01 - 3/05 Chapter 13, 14
lab 3/03
3/08 - 3/12 Chapter 14, 15
3/15 - 3/19 Spring Break
3/22 - 3/26 Chapter 15, 16
lab 3/24
3/29 - 4/02 Chapter 16, midterm 2
4/05 - 4/09 Project proposals due 4/09
lab 4/07
4/12 - 4/16 Chapter 18, 19, 20
4/19 - 4/23 Chapter 20, 22
Project interim reports due 4/19
lab 4/21
4/26 - 5/02 Chapter 21, midterm 3
5/03 - 5/07 Chapter 23, project presentations
Projects due 5/03
lab 5/05
5/13, 4:30 p.m. Final exam