Topics in Statistics: SAS for Data Management, Analysis, and Reporting, 22S:172
Summer 2003

1 General Information

Instructor: Kate Cowles, 374 SH, 335-0727
kcowles@stat.uiowa.edu
Office hours: T noon - 12:50 p.m.,
W 2:30 - 3:20 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
DEO: James D. Broffitt, 241 SH, 335-0712
Lectures: M, W 1:00 - 2:20 51 SH
Lab: T,Th,F 1:00 - 2:20 41 SH
Web page: http://www.stat.uiowa.edu/~kcowles/s172
Handouts, homework assignments, datasets, etc. will be posted on the web page for you to download.
Textbook: Cody and Smith, Applied Statistics and the SAS Programming Language,
texts: Cody, Cody’s Data Cleaning Techniques Using SAS Software,
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 validation and preparation, reporting, and analysis. The emphasis will be on the skills and ways of thinking required of applied statisticians in research environments such as pharmaceutical companies, social science research, etc.

Each student will develop a portfolio of SAS work suitable for presentation in an interview for a job as an M.S. level statistician.

3 Evaluation of students

3.1 Homework

In general, homework will be assigned each Mon. and will be due in class the following Mon. Exceptions to this schedule will be announced in class. Problems from the textbook will not be graded because solutions are provided at the back of the book. Other problems will be graded.

Turn in printouts of your SAS programs and their output.

You are encouraged to study with others. However, if you do work with others on homework 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, mandatory religious obligations, or other unavoidable circumstances or University activities.”

3.2 Exams

There will be one midterm exam given during class and one comprehensive 2-hour final. Students may bring one 8-1/2 x 11 in. sheet of paper with notes to each in-class exam.
Midterm Fri. 6/27 or Tues. 7/1
Final exam scheduled outside of regular hours
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 individually to carry out projects involving application of the data management and 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 student will:

- Choose a topic area
- Obtain relevant data from multiple sources or files. Data issues must involve at least two of the following:
  - importing data created in a spreadsheet, database, or statistical package other than SAS
  - combining data from two or more files
  - dealing with erroneous data
- determine an appropriate method of analysis
- use SAS to check and validate the data
- use SAS to produce well-organized, understandable, and professional-looking numerical and graphical summaries of important variables in the dataset
- use SAS to carry out the analysis
• report and interpret the results

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 7/1) 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.

• Project interim report (due 7/10) This informal report will indicate that your project is "on track." It will include results obtained thus far and a brief summary (handwritten is O.K.) of what they mean and what remains to be done.

• Final project writeup (due 7/18)

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>15%</td>
</tr>
<tr>
<td>Midterm</td>
<td>20%</td>
</tr>
<tr>
<td>Project</td>
<td>25%</td>
</tr>
<tr>
<td>Final</td>
<td>40%</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 me after class or during my office hours.

4.3 Student complaints concerning faculty actions

Please see the Schedule of Courses (p. 111-112) 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 Schedule of Courses (p. 111) for UI policy regarding plagiarism and cheating.

5 Syllabus

This approximate schedule will be updated as needed during the 6 weeks.

6/10-13 Chapters 1-3
6/16-20 Chapters 4-7
6/23-27 Chapters 8-9, 11 parts A-D

Additional material on SAS/Graph
Additional material on proc tabulate
Midterm on Friday 6/27 or Tues. 7/1

6/30 - 7/3 Chapters 12-14
7/7 - 7/11 Chapters 15-17
7/14 - 7/18 Chapters 18-19

Final scheduled outside of class hours