STAT8801, Statistical Consulting

2:30 – 3:20 MWF, Akerman 211, Mpls Campus

Instructor

Aaron Rendahl, 366 Ford, 612-625-8599 (Mpls) 612-625-1062 (StP), `arendahl@stat.umn.edu`.
Office hours will be 1:15 – 2:15 MWF.

Texts and Readings

While no book is required, there are several useful books including *Statistical Consulting* by Javier Cabrera and Andrew McDougall (2002), *Statistical Consulting: A Guide to Effective Communication* by Janice Derr (1999), *Human Side of Statistical Consulting* by James R. Boen and Douglas A. Zahn (1982), and *Statistical Rules of Thumb* by Gerald van Belle (2002).

There will be frequent handouts and occasional articles from the professional and popular press for reading.

Class Web Page

All handouts and readings will be posted on the class webpage,
`http://www.stat.umn.edu/~arendahl/Teaching/STAT8801-2012Spring`.

Course Grade

This course must be taken S/N. Grading will be based on the following:

1. Class attendance. While there will be no formal attendance policy, attendance is expected. If you are unable to attend class on a given day, there will be a small assignment covering the day's material or activity. If you are unable to attend on a regular basis, I will ask you to consider retaking the class in a subsequent semester.

2. Class preparation. Some classes will require reading of an article or meeting together in a small group to discuss a case. For these classes, you will be required to bring a short summary of your thoughts to class. Specific details will be provided in advance. If you are unable to prepare for a given class, a written summary of the class will be expected instead.

3. Class participation. Without your input, this will be a very dull course. Speak up! However, that's hard to measure, so at the end of most classes, there will be a short writing assignment where you will be asked to summarize some aspect of that day's class.

4. Group assignments. The class will be divided in four groups, which will be changed each week. Each group will work together on the assignment, usually analysis of a case study, but possibly also a data analysis, critical comments on published articles, or some other assignment. The group leader will then summarize the group's work; two groups will give a 12 minute presentation to the class and two groups will submit a one or two page written report. All students will do one presentation and one written report. Students may also be assigned to moderate a given week's presentations. Students who are not leaders will be expected to bring to class a short summary of their group discussion; if you are unable to attend your group's discussion, you are expected to give your leader your comments on the case and bring those.

5. Role-playing. You will be expected to participate in at least one consulting role-playing situation, of approximately five minutes.

6. One individual presentation of about 10 minutes on a topic about which you most likely know nothing but will use any resources you can, including books and articles as well as the internet, to learn enough to give the talk. Topics will be randomly assigned.

7. One basic data analysis, to be performed in at least three computing environments. Details later.

Curriculum

The course has five threads:

- **Communication:** working with clients, effective writing, oral presentation, presentation of data via tables and graphs, publication

- **Professional practice:** working with clients, defining problems, interpersonal skills, operating a business, professional growth

- **Technical tools:** some techniques, but mostly thinking about and learning about new ideas, approaches, and techniques

- **Ethics:** the University requirements for ethics for all graduate students as well as ethics specific to statisticians and statistical consultants

- **Teamwork:** working with others to solve problems

Acknowledgments

This course is based on a course developed by Douglas Hawkins and adapted and revised by Gary Oehlert in Fall 2007 and Sandy Weisberg in Spring 2008.

Disabilities

Students with disabilities that affect their ability to participate fully in class or to meet all course requirements should bring this to my attention so that appropriate accommodations can be arranged. Further information is available from Disabilities Services (230 McNamara).

Scholastic misconduct

Scholastic misconduct is broadly defined as "any act that violates the right of another student in academic work or that involves misrepresentation of your own work. Scholastic dishonesty includes, (but is not necessarily limited to): cheating on assignments or examinations; plagiarizing, which means misrepresenting as your own work any part of work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student's work."

In this class, a first instance of scholastic misconduct will result in a warning. Repeated misconduct will result in an F and will be reported to the appropriate University office.

Sexual Harassment

University policy prohibits sexual harassment as defined in the December 1998 policy statement, available at the Office of Equal Opportunity and Affirmative Action. Questions or concerns about sexual harassment should be directed to this office, located in 419 Morrill Hall.