

STAT8801, Statistical Consulting

2:30–3:20 MWF, **Ford 130**, 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 MF.

Class Date/Time Changes:

No class: Friday, March 14.

Extra class: Wednesday, February 26, 3:30–4:30pm. Eric Vance, Director of the Consulting Laboratory at Virginia Tech will be giving a seminar in the Biostats Dept. We'll adjourn from Ford a little early and walk over together. This is required; let me know if you will be unable to attend.

Texts and Readings

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

Class Web Page

All handouts and readings will be posted on the class webpage,
<http://www.stat.umn.edu/~arendahl/Teaching/STAT8801-2014Spring>.

Curriculum

The course will aim to make you “Completely Sufficient Statisticians,” as defined by Ralph O’Brien. (<http://stattrak.amstat.org/2010/10/01/csspart1/>) This includes:

- **Numeracy:** The ability to define and solve real problems. Also learning about new approaches and techniques for doing so. We will discuss case studies and have guests visit from both inside and outside the University.
- **Articulatory:** The people skills necessary to be successful in meeting with clients and working with others. Also, giving oral presentations. We will discuss articles and video clips, and you will practice using role-playing and by giving and assessing presentations.
- **Literacy:** The ability to write clearly, especially for an audience of non-statisticians. We will discuss tools and processes to improve your writing, and you will write, comment on, and edit several kinds of documents.
- **Graphicacy:** Producing clear and informative graphics and tables. We will discuss how to improve tables and graphics and you will create and comment on graphics and tables for a particular data set.

We will also cover ethics:

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

Course Grade

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

1. Class attendance and participation. Attendance is required. If you are unable to attend class on a given day, there will be a small assignment covering the day's material or activity. As a courtesy, please email me in advance. This is not meant as a choice, but as a recognition that as graduate students sometimes your research may take precedence. Students who miss more than five classes may be asked to retake the class in a subsequent semester.

Students will not be penalized for absense due to unavoidable or legitimate circumstances. See <http://www.policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html>.

This is an interesting class as you most likely already have some experience with many of the topics we will discuss. Your peers will benefit from hearing from you! Please share your thoughts and experiences with them. Each class will also include a short writing assignment where you will be asked to summarize some aspect of that day's class.

2. Writing assignments. These may include the design of a protocol, a statistical analysis plan, and a report on an analysis, as well as creation of graphics and tables. You will also be expected to edit and comment on writing of your peers, and respond to the comments of others.
3. Oral presentations. These may include a report on an analysis and a summary of a technical topic that is new to you. Due to the large size of the class, you will give these outside of class and record them using video, and critique your performance. You will also be expected to attend at least two student talks in person.
4. Role-playing. You will be expected to play the role both of a consultant and of a client. These again will be performed outside of class and recorded so that you can critique your performance.

Disabilities

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. If you have an accommodation letter, please share it with me as soon as possible during the semester in order to secure accommodations in a timely manner.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical) and have not done so already, please contact Disability Services (DS) at 612-626-1333 to arrange a confidential discussion regarding equitable access and reasonable accommodations.

Mental Health and Stress Management:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

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.