

STAT8801, Statistical Consulting

2:30–3:45 MW, Ford 130, Mpls Campus, from January 20 to May 4.

Instructor: Aaron Rendahl, 366 Ford, 612-625-8599 (Mpls) 612-625-1062 (StP), arendahl@stat.umn.edu

Office hours: 9:30–10:30am, 1:15–2:15pm MW (contacting me ahead of time is requested)

Course website: <http://www.stat.umn.edu/~arendahl/Teaching/STAT8801-2016Spring>.

Goal of this course

The goal of this course is to train students to:

**Collaborate effectively and responsibly with non-statisticians
to answer their subject matter questions.**

Breaking this down into pieces...

- their subject matter questions.
 - Identify subject matter questions and translate into statistical language.
 - Ask good questions and restate answers to ensure understanding.
 - Write the background, goals, and study design section of a proposal or report.
- to answer
 - Choose a statistical method that is appropriate for answering the client's question.
 - Write a statistical analysis plan.
- with non-statisticians
 - Verbally explain statistical concepts.
 - Explain results in subject matter language appropriate for the client.
 - Write a statistical analysis report.
 - Design tables and plots that increase clarity and understanding.
 - Create effective slides and oral presentations.
 - Write a study protocol.
- and responsibly
 - Understand and apply the principles of Responsible Conduct for Research.
 - Understand and apply ethical guidelines specific to statisticians.
- Collaborate effectively
 - Run an effective collaboration meeting.
 - Use video to improve meeting and collaboration skills.
 - Set expectations for a successful collaboration.
 - Write a proposal for statistical collaboration.
 - In all writing, use language that is appropriate for the client and techniques that increase clarity and understanding.

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 three classes may be asked to retake the class in a subsequent semester. Per University policy, students will not be penalized for absence due to unavoidable or legitimate circumstances.
Students are also expected to fully participate in class discussions, including daily in-class mini-writing assignments that summarize some aspect of that day's class.
2. Homework. Especially early in the course, there will be small writing assignments given as homework. These will include writing and revising sections of a statistical proposal for a case we will discuss in class. This will also include writing a protocol for a study design, tentatively planned for the end of the semester.
3. Collaboration with a "client" on a case study. You will each be given a case study to play the role of the client for, and in pairs, will consult with each other. As the consultant, you will be expected to
 - Consult with the client. Videorecord the meeting and reflect on your performance.
 - Write a statistical proposal and analysis plan.
 - Write a statistical report with the results from your analysis.
 - Give (and video record) a short presentation to the client with your result, and reflect on 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 chance to rework the assignment and learn about expectations for academic integrity. Repeated misconduct will result in an F. All instructors are required to report incidents to the Office for Student Conduct and Academic Integrity.