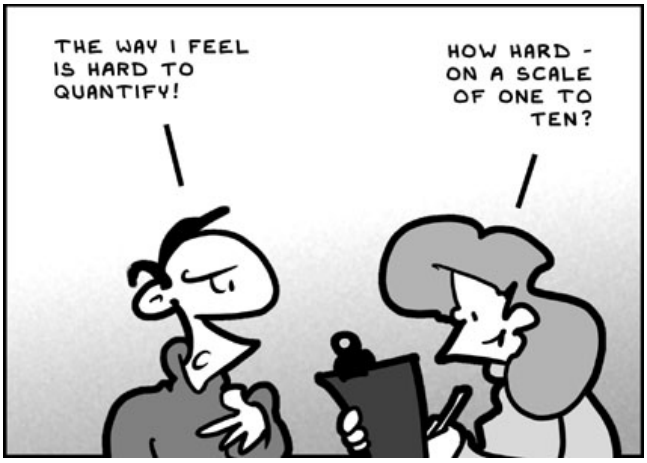
SOC-203: Statistics for Social Research



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Office Hours: By appointment via Google Calendar
Course Meeting: Monday and Wednesday, 9:30 – 10:45

Course Description: Are homeowners more involved in their communities than renters? Does performance on standardized exams vary according to classroom size? When college sports teams are winning, do college students study less? Do foreclosures increase crime in Washington, DC neighborhoods? How have attitudes towards abortion changed in the United States over the past two decades? What impact does a criminal record have on job opportunities? To answer these – and countless other – research questions, social scientists turn to a set of research tools know as statistics.

Statistics refers to the procedures that social researchers use to collect, measure, describe and analyze quantitative data. These tools help researchers to understand whether variables in the world are related to each other. They also enable researchers make predictions about the future and to identify causal relationships in the social world. This course introduces students to a range of topics in statistical analysis, including collecting and describing data; creating visual displays of quantitative information; identifying relationships among variables; and testing research hypotheses. By the end of the course, students will develop a toolbox of statistical procedures to investigate the social world. They will gain familiarity with a popular social science dataset – the General Social Survey – used to analyze trends in social attitudes and behaviors. Students will also become critical consumers of quantitative data, thinking seriously about the way quantitative information is analyzed and presented in their everyday lives.

Learning Goals: Students will develop basic tools of social research for analyzing quantitative data. By the end of the semester, students should be able to:

- Identify ways that social scientists collect, describe and analyze data about the social world;
- Create and critically evaluate visual displays of information, including charts, graphs and other visual tools;
- Explain the importance of sampling for making statistical inferences about broader populations;
- Conduct various statistical tests for evaluating the relationship between variables;
- Differentiate between correlation and causation, recognizing the importance of causal inference to social research, as well as the limitations of generating casual estimates;
- Consume statistical information with a critical eye toward the source of the data and the legitimacy of the research claims.

Course Texts: The course will use two books – a general statistical introduction (*Naked Statistics*) and an analysis of the General Social Survey (*Social Trends in American Life*). There is also a more formal statistics textbook on reserve in the library (*The Statistical Imagination)* for students interested in a traditional textbook.

Wheelan, Charles. 2014. *Naked Statistics: Stripping the Dread from the Data*. New York: W. W. Norton & Company.

Marsden, Peter. 2012. *Social Trends in America Life: Findings from the General Social Survey since 1972.* Princeton, NJ: Princeton University Press.

Optional: Richtey, Ferris J. 2008. *The Statistical Imagination: Elementary Statistics for the Social Sciences*. New York: McGraw Hill. (On reserve at Lauinger Library)

Course Requirements: Students are required to attend *every* lecture during the semester. They are required to complete three data analysis assignments and three exams. We will 'flip' the classroom, which means that much of what you would typically complete as homework will be done during class. Students wishing to have additional practice should contact the instructor for additional problem sets.

- **Attendance and Participation:** Your grade for attendance and participation is comprised of three parts: attendance at course lectures, participation through Top Hat, and reading quizzes. Together, these are worth twenty percent of your final grade.

- *Attendance:* Students are required to attend every lecture. Attendance will be taken through Top Hat. Students who arrive after attendance has been taken will be marked as absent. Missing lectures is particularly troublesome for a course where the content is cumulative. After a student misses two classes, *they will lose three points for each class missed.* Students with perfect attendance – including *no* late arrivals – will receive three additional points on their final grade.

- *Top Hat:* Top Hat is a system that allows students to participate interactively through a tablet or mobile device. Students will be asked to answer questions in-class through Top Hat. Participation in the Top Hat activities will count toward participation points. Please note that the grade is for active *participation* – not for getting every answer correct.

- *Quizzes:* Throughout the semester, students will have quick quizzes on the course readings. These quizzes will be unannounced, and there will be no make-up quizzes for students who miss class.

- **Data Analysis Assignments:** There are three data analysis assignments in the course. Students will use statistical software (e.g., SPSS, Excel or Tableau) to analyze an extract of the General Social Survey. We will spend time in class learning the statistical software, although you may need to find additional web resources to deepen your understanding of these programs. Students will have access to the appropriate data via Blackboard two weeks before the assignments are due. Students are required to turn in hard copies of their assignments at the beginning of class on the date listed on the syllabus. I will *not* accept electronic assignments under *any* conditions. Typed or (legibly) hand-written assignments are both acceptable. Students are required to complete these data analysis assignments independently – *not* in groups! Violation of this rule is a violation of the honor code, and students caught working together will receive zero points for their assignment. Each assignment is worth ten points toward the final grade.

- **Exams:** The course has three exams – an 'early' midterm, a 'late' midterm and a final exam. The final exam is cumulative, but focuses on the second half of the course. Each of the exams, including the final exam, will be administered *in-class.* The midterms are both worth fifteen points, and the final exam is worth twenty points.

Late Coursework: At the end of this syllabus, you will find one late pass. You can use the late pass for one data analysis assignment during the semester without penalty. Simply attach the late pass to the assignment and hand it in within two days of its due date. Except with your late pass, late assignments will *not* be accepted under any circumstance.

Top Hat Monocle: Students are required to subscribe to Top Hat Monocle to answer in-class questions during the course. Top Hat is an interactive web-based platform that allows students to answer questions from your smartphone, tablet, computer or mobile phone. The cost for the semester is $24. The course code for SOC-203 for the fall semester is 385197. Additional information will be provided during the first week of class.

Course Schedule: Students must read the required readings *before* coming to class. Although the lecture will often cover material from the book, we will *not* have sufficient time to review everything. Additional articles will be distributed throughout the semester to highlight many of the themes and concepts from the course.

Date	**Topic**	**Readings**	**Assignments**
September 2	Introducing Statistics		
September 9	Measurement and Collection of Data	*Required:* Wheelan, Chapter 1 *Optional:* Ritchey, Chapters 1 & 2	
September 14 and 16	Describing Data, Distributions and Visual Displays of Data	*Required:* Wheelan, Chapters 2, 3 and 4 *Required:* Wainer, Howard. 1984. "How to Display Data Badly." (Blackboard) *Optional:* Ritchey, Chapters 4 and 5	
September 21 and 23	Introduction to Data Analysis Software (e.g., Excel, SPSS) and Introduction to the General Social Survey	*Required:* Marsden, Chapters 1, 3 and 5.	
September 28 and 30	Probability & the Normal Curve	*Required:* Wheelan, Chapter 5, 5 ½ and 6 *Optional:* Ritchey, Chapter 6	Data Analysis Assignment #1 (Wednesday)
October 5 and 7	Samples and Populations	*Required:* Wheelan, Chapter 7 *Optional:* Ritchey, Chapter 7	Early Midterm (Monday)
October 14	Samples and Populations (cont'd)	*Required:* Wheelan, Chapter 8	
October 19 and 21	Statistical Inference and Hypothesis Tests	*Required:* Wheelan, Chapter 9	

		Optional: Ritchey, Chapter 8	
October 26 and 28	Confidence Intervals	*Required:* Wheelan, Chapter 10 *Optional:* Ritchey, Chapters 9 and 10 (p. 315-340)	Data Analysis Assignment #2 (Monday)
November 2 and 4	Statistical Inference using the General Social Survey	*Required:* Marsden, Chapters 8 and 10.	Late Midterm (Wednesday)
November 9 and 11	Testing Hypotheses about Continuous Variables	*Required:* Ritchey, Chapters 11 and 12 (Blackboard)	
November 16 and 18	Testing Hypotheses about Nominal Variables	*Required:* Ritchey, Chapter 13 (Blackboard)	
November 23 (Note: No class on November 25)	The Basics of Linear Regression	*Required:* Wheelan, Chapters 11 and 12 *Optional:* Ritchey, Chapter 14	
November 30 and December 2	Putting the Pieces Together: Causality, Public Opinion and Reading Social	*Required:* Wheelan, Chapter 13 and Conclusion *Required:* McAdam and Brandt. "Assessing the Effects of Voluntary Youth Service: The Case of Teach for America."	Data Analysis Assignment #3 (Monday)
December 7 and 9	Course Review		Final Exam (Wednesday)

Late Pass – Individual Assignment

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This pass allows you to turn in *one* late assignment.

You can use this pass for one of the data analysis assignments. You cannot use the pass for an exam. Fill out the information below, *staple* the pass to your assignment and submit the assignment within forty-eight hours of the original due date.

Your name:

Original Due Date:

Date Submitted:

Signature: