Soc 360: Statistics for Sociologists I
Summer 2018
University of Wisconsin-Madison

Instructor
  Mike King
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  Office Hours: Monday & Tuesday 9 – 9:50,
                Thursday 1 - 2, or by appointment

Lectures
  June 18 - August 12, 2018
  Monday - Thursday, 10:10 am - 11:45 am
  1333 Sterling Hall

Course Description

Presentation of sociological data; descriptive statistics; probability theory and statistical inference; estimation and tests of hypotheses; regression and correlation and the analysis of contingency tables; lectures and lab. Gateway to advanced courses in sociology. It is recommended that students take SOC/C&E SOC 357 prior to taking this course. Not open to students who have taken Soc 359.

Requisites: Satisfied Quantitative Reasoning (QR) A requirement. Basic algebra skills.

Credits: This is a 4-credit course. The credit standard for this course is met by an expectation of a total of 180 hours of student engagement with the course learning activities (at least 45 hours per credit), which include regularly scheduled lectures (four 95-minute class periods each week), reading, writing, homework, and other student work as described in this syllabus.

Course Overview

This is a first course in statistics designed for students in the social sciences. It introduces methods of quantitative social research to illustrate how they are used to assemble, describe, and draw inference from quantitative data. The methods we cover are basic, but highly useful for understanding statistical reports of various kinds and also for carrying out your own analyses of information drawn from difference sources, including surveys. Upon completion of this course, you will be a more informed and critical reader of academic work, news accounts, and advertising materials that present statistical evidence. You should also be able to execute and present elementary statistical analyses of your own.

The first part of the course focuses on descriptive statistics. We will cover strategies for exploring and interpreting data, describing single variables, and examining relationships between two variables. The second part of the course focuses on statistical inference. We will cover the concepts underlying data collection and probability sampling, the sampling distribution, and the importance of the sampling distribution to statistical inference about populations.

Course Learning Objectives

I have designed this course to achieve the following learning objectives designated as priorities by the Department of Sociology:
  - *Conduct Research and Analyze Data (primarily quantitative)*. Although professional quality research requires graduate-level training, we expect that all undergraduate majors will be able to conduct small-

scale research in which they formulate a research question, analyze data, and draw conclusions. This course will provide you the skills for basic quantitative data analysis.

- *Critically Evaluate Published Research*. Sociology graduates will be able to read and evaluate published research as it appears in academic journals and popular or policy publications. This course will equip you with the knowledge critical to read and crucially evaluate many quantitative social science research publications.
- *Communicate Skillfully*. Sociology majors write papers that build arguments and assess evidence in a clear and effective manner. This course will introduce you to writing well about quantitative data analysis.
- *Critical Thinking about Society and Social Processes*. Sociology graduates can look beyond the surface of issues to discover the "why" and "how" of social order and structure and consider the underlying social mechanisms that may be creating a situation, identify evidence that may adjudicate between alternate explanations for phenomena, and develop proposed policies or action plans in light of theory and data. This course will teach you to use statistical thinking and analysis to perform such tasks.
- *Prepare for Graduate School and the Job Market*. Students use their social research skills to identify opportunities for employment or further study, assess their qualifications for these opportunities, and identify strategies for gaining the necessary knowledge and experience to improve their qualifications. Students are encouraged to develop and maintain portfolios of their written work and educational experiences to aid them in preparing applications.
- *Improve Project Management Skills*. Students will improve their skills in time management, ordering and executing a series of complex and inter-related tasks, and integrating distinct components of the project into a final product.

Course Materials

Required Text and Readings:

Moore, Davis S., William I. Notz, Michael A. Fligner. *The Basic Practice of Statistics*, 7th edition. New York: W.H. Freeman.

Any additional readings will be provided on the course Canvas page.

Software:

We will use Stata for applied statistical work in this course. Stata is available for download free of charge to enrolled UW students; https://software.wisc.edu/cgi-bin/ssl/csl.cgi. You may also access Stata remotely through the Social Science Computing Cooperative's Winstat server or in the computer lab in 4218 Social Science. For more information, see https://www.ssc.wisc.edu/sscc/pubs/winstat.htm.

Calculator:

You will need a non-programmable calculator (i.e., no graphing calculators) for homework and especially for quizzes and exams. I would recommend the TI-30XIIS or TI-30Xa, but there are other alternatives. It should have a square root and a power function. I strongly encourage you to use the same calculator for homework as you do for quizzes and exams so you are familiar with it. Do not use your phone as a calculator since you will not be allowed to use it on quizzes or exams.

Online Resources:

The course website is available through Canvas. If you enrolled in the course, you can access the site by going to https://canvas.wisc.edu. The Moore et al. text comes with many online supplements (https://www.macmillanlearning.com/catalog/studentresources/bps7e#) that you may find useful.

Requirements

Lectures:

You are responsible for reading the entire chapter (or portion of a chapter) for each topic *before the lecture on that topic*, unless indicated otherwise. The lecture slides will be available on the Canvas site before class. I encourage you to print out the slides and bring them to class to take notes.

Daily Quizzes:

This course uses low-stakes daily quizzes as a formative assessment tool to help you continually gauge your understanding of the material. Each lecture will be accompanied by a homework assignment to be completed before the next lecture. The homework questions should be the primary focus of your study. At the *beginning* of each lecture, a ten-minute quiz will be administered with questions drawn from the previous lesson's textbook reading, lecture, and/or homework questions. In general, when a chapter focuses on numerically-oriented concepts, the quiz question(s) will be a homework question with some details changed. When a chapter is more conceptually oriented, the quiz question(s) will be derived to test your grasp of the concepts from the chapter. You may use (and may need) your calculator for the quizzes, but you must show enough work to demonstrate understanding. Each quiz is graded on a five-point scale. *Make-up quizzes are not administered*. To allow for illness, emergencies, and other legitimate reasons to miss class, only the best 20 quizzes (out of 26 total) are used in the calculation of the final grade.

Exams:

There will be four non-cumulative exams. Exam questions will consist of questions similar to those from the daily quizzes and from the homework. Because of this, you should use the quizzes as a way to gauge your mastery of the material. You will need to bring your calculator to the exams, but you must show enough work to demonstrate understanding. If you are unable to take an exam at the scheduled time, you must inform me *at least one week in advance*. If you have an emergency that prevents you from taking an exam, contact me as soon as possible. Make-up exams may be different from and more difficult than the original.

Data Analysis Projects:

One of the goals of this course is to help you develop your skills as a producer of social research. This will be accomplished through two data analysis projects. These projects are meant to put the material presented in class and in the textbook into context and to help solidify what you have learned. The first is a short project that focuses on descriptive statistics and graphical display of data. The second project will require you to apply the skills you have learned throughout the course. Further details will be distributed in class.

Attendance and Participation:

Class sessions will include a mixture of lectures, discussion, and exercises. I expect everyone to participate actively during all discussions and exercises. Texting, emailing, surfing the web, and using social media should not be done during class time and may count against your participation grade. They illustrate a lack of engagement and distract your classmates and the instructor.

Final Grades

Final grades will be calculated as follows: The final grade point distribution will be as follows:

Daily Quizzes (best 20)	10%	A	93 - 100	C	70 - 77
Exams (4 exams, 15% each)	60%	AB	88 - 92	D	60 - 69
Data analysis projects (10%, 15%)	25%	B	83 - 87	F	Below 60
Attendance and participation	5%	BC	78 - 82		

Re-grading Policy

When quizzes or exams are returned, please check your quiz or exam for grading errors promptly. The answer key is posted the day following the quiz or exam on Canvas. Barring emergencies, graded quizzes and exams will be returned at the next class meeting. If you disagree with the way a question was graded, please do the following:

1. Divide a piece of paper into two columns. In the left column, write the correct solution to the question. In the right column, rewrite your solution, matching each step in the correct solution as best as possible. Annotate your solution with an explanation of any errors.
2. Attach this page to the front of your unaltered quiz or exam and return to the instructor *within one week* of receiving the grade.

When grading is re-evaluated, the original grade may go up or down and the entire quiz or exam may be re-graded (not just the question in dispute).

Communication

Feel free to come by my office during office hours. If you have a scheduling conflict, please make an appointment in advance via email. I may not be able to accommodate appointments on short notice, though, so please try to plan ahead.

I check my email periodically, but if it is the weekend or after 5 pm, I cannot guarantee an immediate response. I will try to answer all questions as soon as possible, but please allow up to 48 hours for a response. Make sure to check the syllabus or Canvas before asking questions—the answer you are looking for might already be available.

Accommodations

Please send the instructor an email **by the end of the first week of the course** if you are eligible for special arrangements or accommodations for testing, assignments, or other aspects of the course. This may be the case if English is your second language or you experience a physical or psychological condition that makes it difficult for you to complete assignments or exams without some modification of those tasks. Accommodations are provided for students who qualify for disability services through the McBurney Center. Their website has detailed instructions about how to qualify: http://www.mcburney.wisc.edu/. Provide a copy of your accommodations request (VISA) to the instructor by the end of the first week of class.

If you wish to request a scheduling accommodation for religious observances, send an email by the end of the first week of the course stating the specific date(s) for which you request accommodation; campus policy requires that religious observances be accommodated if you make a timely request early in the term. See the university's web page for details: https://kb.wisc.edu/page.php?id=21698.

Academic Honesty

As with all courses at the University of Wisconsin, you are expected to follow the University's rules and regulations pertaining to academic honesty and integrity. The standards are outlined by the Office of the Dean of Students at http://www.students.wisc.edu/doso/academic-integrity/

According to UWS 14, academic misconduct is defined as:

- Seeks to claim credit for the work or efforts of another without authorization or citation;
- Uses unauthorized materials or fabricated data in any academic exercise;
- Forges or falsifies academic documents or records;
- Intentionally impedes or damages the academic work of others;
- Engages in conduct aimed at making false representation of a student's academic performance;

- Assists other students in any of these acts.

For a complete description of behaviors that violate the University's standards as well the disciplinary penalties and procedures, please see the Dean of Students website. If you have any questions about the rules for any of the assignments or exams, please ask me.

Sexual Harassment and Misconduct

Professional conduct and appropriate behavior are critical to create a safe learning environment for students and instructors alike. Here is a statement about sexual harassment from the University:

What is Sexual Harassment?

Unwelcome sexual advances, requests for sexual favors, and verbal or physical conduct of a sexual nature constitute sexual harassment when:
- Submission to such conduct is a condition of employment, academic progress, or participation in a university program; or
- Submission to or rejection of such conduct influences employment, academic or university program decisions; or
- The conduct interferes with an employee's work or a student's academic career, or creates an intimidating, hostile or offensive work, learning, or program environment.

Tangible Action or *Quid Pro Quo* (This for That) Sexual Harassment and Hostile Environment Sexual Harassment are both illegal and unacceptable.

Departmental Notice of Grievance and Appeal Rights

The Department of Sociology regularly conducts student evaluations of all professors and teaching assistants near the end of the semester. Students who have more immediate concerns about this course should report them to the instructor or to the chair, Jim Raymo, 8128 Social Science (socchair@ssc.wisc.edu).

Schedule

	Event	Monday	Tuesday	Wednesday	Thursday
Week 1	Date	6/18	6/19	6/20	6/21
	Lecture	Ch 1	Ch 2	Ch 3	Ch 4
	Assessment		Ch 1 Quiz	Ch 2 Quiz	Ch 3 Quiz
	Project				
	Stata			SSCC & Winstat	Stata basics
Week 2	Date	6/25	6/26	6/27	**6/28**
	Lecture	Ch 5, Part 1	Ch 5, Part 2	Ch 6	
	Assessment	Ch 4 Quiz	Ch 5.1 Quiz	Ch 5.2 Quiz	**Exam 1**
	Project	Project 1 Intro			**Ch 1 – Ch 5.1**
	Stata		Corr. & Regression	Two-way tab	
Week 3	Date	7/2	7/3	**7/4**	7/5
	Lecture	Ch 8	Ch 9	**Fourth of July**	Ch 12
	Assessment	Ch 6 Quiz	Ch 8 Quiz		Ch 9 Quiz
	Project			**No Class**	Project 1 Due
	Stata				
Week 4	Date	7/9	7/10	7/11	**7/12**
	Lecture	Ch 13	Ch 15, Part 1	Ch 15, Part 2	
	Assessment	Ch 12 Quiz	Ch 13 Quiz	Ch 15.1 Quiz	**Exam 2**
	Project				**Ch5.2 – Ch 13**
	Stata				
Week 5	Date	7/16	7/17	7/18	7/19
	Lecture	Ch 16, Part 1	Ch 16, Part 2	Ch 17, Part 1	Ch 17, Part 2
	Assessment	Ch 15.2 Quiz	Ch 16.1 Quiz	Ch 16.2 Quiz	Ch 17.1 Quiz
	Project				Project 2 Intro
	Stata		Conf. intervals		
Week 6	Date	7/23	7/24	7/25	**7/26**
	Lecture	Ch 18	Ch 20, Part 1	Ch 20, Part 2	
	Assessment	Ch 17.2 Quiz	Ch 18 Quiz	Ch 20.1 Quiz	**Exam 3**
	Project				**Ch 15.1 – Ch 18**
	Stata	t-tests			
Week 7	Date	7/30	7/31	8/1	8/2
	Lecture	Ch 21, Part 1	Ch 21, Part 2	Ch 22	Ch 23
	Assessment	Ch 20.2 Quiz	Ch 21.1 Quiz	Ch 21.2 Quiz	Ch 22 Quiz
	Project				Project 2 Due
	Stata		z-tests		
Week 8	Date	8/6	8/7	8/8	**8/9**
	Lecture	Ch 25, Part 1	Ch 25, Part 2	Ch 26	
	Assessment	Ch 23 Quiz	Ch 25.1 Quiz	Ch 25.2 Quiz	**Exam 4**
	Project				**Ch 20.1 – Ch 25.1**
	Stata		Chi-square		

Last day to drop without transcript record: June 22

Last day to drop without academic dean approval: July 20