SOC 6120-001 – Statistics I
Fall Semester 2019
Tues and Thurs 12:25-1:45 in BEHS 115

Instructor: Dr. Daniel E. Adkins
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Office Location: 409 BEHS
Office Hours: Thurs 1:50-3:00 and by appointment

Books (available at the campus bookstore):


Course Summary
This is the first semester of the two-course sequence in social statistics required of graduate students in Sociology. This course covers statistical basics, including descriptive statistics, probability principles, simple tests of association, and linear regression. In addition to laying the theoretical foundations for quantitative social science research, this course introduces students to statistical data analysis using the software program Stata. This class meets twice each week, first for a 1.5 hour lecture (Tues 12:25-1:45), and then for a 1.5 hour computer lab (Thurs 12:25-1:45), which will be used for instruction in Stata. You will have to work outside of class on assignments practicing computing methods and data analysis techniques.

There are no mathematics prerequisites. Students are not expected to have a background in calculus (although I will briefly touch on calculus topics for expository purposes), but facility with algebra and remembering statistical distribution theory and hypothesis testing from your undergraduate statistics class will be helpful.

Course Objectives
At the end of this course, you will be able to use the statistical program Stata to prepare data for analysis and conduct basic analyses. You will be able to interpret descriptive statistics, evaluate measures of central tendency, dispersion, and association. You will be familiar with the regression concept and able to estimate and interpret simple regression models.

Course Requirements and Grading
Your grade will be based on your performance in 13 homework assignments and a final exam. Each assignment is worth 65 points, for a subtotal of (65*13=) 845 points, and the
final is worth 155 points, for a total of 1000 possible points. The final grade for the course is determined by the sum of individual assignment grades. Grading is as follows:

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**Supplies:**
- You will likely need portable storage. Your best bet is a USB flash drive or two.
- It is strongly recommended that you bring your laptop to class on lecture days.

**Attendance Policy:**
You are expected to attend every class. While a formal attendance grade will not be taken, it will be quite difficult to complete the assignments without receiving the lab tutorial. If attendance becomes poor, I reserve the right to give unannounced quizzes. If you are attending a conference, you will need to provide paper documentation of your participation in the conference.

**Assignments:**
- Class assignments will require the use of *Stata Version 15*, a statistical software package. *Stata 15* is widely available on campus, including in the CSBS labs listed at: [https://support.csbs.utah.edu/services/labs.php](https://support.csbs.utah.edu/services/labs.php). In addition to the physical workstations available in campus computing labs, you will also be able to access Stata remotely using the CSBS Virtual Lab ([https://support.csbs.utah.edu/csbs-virtual-lab.php](https://support.csbs.utah.edu/csbs-virtual-lab.php)). *Stata* includes a text-editor to write and edit files (i.e., scripts) containing multiple *Stata* commands. These scripts files, called “do-files” in *Stata* parlance, can also be edited with any text-based file editor such as *NotePad*.

- Assignments must be completed using a flexible word-processing package such as *Microsoft Word*, with the capacity to incorporate *Stata* output, graphics, tables, Greek or mathematical fonts and equations.

Each of the assignments includes data analysis exercises using *Stata* and (usually) the 2008 General Social Survey (GSS) data, which you will download during the first lab. The assignments will be given at the end of the Tues lecture meeting and will be due the following Thurs, except for assignments issued the week before Thanksgiving Break, when the assignment will be due the following week. The assignments will require comprehension of the statistical principles taught that week in the Tues lecture. The Thurs lab will provide all relevant instruction for the data analytic techniques required to complete the assignments. Thus, it is important that you make every effort to attend both Tues and Thurs meetings, in order to successfully complete the assignments.
It is **critical** that you keep up with assignments. Assignments due in class are due at the **start of class** on the due date. Late assignments will be penalized by 3 points if they are received within 24 hours of the time due, 6 points if they are received within 48 hours of the time due, 15 points if they are received within 72 hours, 30 points if they are received within 96 hours, and 45 points if received after 96 hours. **This includes weekends, holidays, and school breaks.** In no case will assignments be accepted on or after the sixth calendar day after the due date.

- Students should upload an electronic copy of each assignment in Canvas by the Thurs due date. This is particularly important if you submit your assignment late, as it will communicate the date, and the corresponding penalty, of the submission.
- If you have to miss class or an assignment due date due to illness it is your responsibility to notify me or have a friend notify me if you are unable to do so. If I do not hear from you, late penalties will apply.

**Working Together**

I encourage you to discuss homework assignments and data preparation with each other. The final product, however, must reflect your own work. On computer assignments that require that you choose variables for analysis, everyone is expected to use different variables. If you are aware that someone else is using the same variables that you are using, one or both of you need to change variables.

**Assignment Queries and Computer Problems**

Let me know if you have questions about an assignment. If you send a question electronically, include the text of the exercise in your message. If you are having problems analyzing your data, include relevant excerpts from the log file. Bring questions to office hours or schedule an appointment with me, but be sure to bring, or have online access to, a copy of the script (i.e., the .do file) and the results log (i.e., the .log file). It is impossible to diagnose error messages without these.

**Revisions of Assignments**

You will be given the opportunity to submit revisions of any assignment scoring. Sometimes I will note on the assignment that a revision **should** be done, but regardless you can **always request** a revision. If you submit a revised assignment, your final grade will be an average of the original and the revised work, less **any late penalties imposed on the original submission**. Revisions must follow this format:

- Include a brief memo summarizing the problems you have addressed.
- Resubmit the original, graded, marked-up copy of the assignment in entirety along with the revised assignment.
- Use highlighting and/or marginal notes on the revised assignment to indicate all sections that have been changed.
The entire package should be given to me directly within three weeks of the date the original was returned.

Course Outline & Readings

This outline provides a reasonable estimate of the time we will spend on each topic. The actual schedule is subject to change. Please review the slides before class. I may also recommend scholarly articles that illustrate the concepts discussed in class; if so, they will be posted online.

Week #1  (8/19-8/23)  Warm-up and Introduction to Stata
Week #2  (8/26-8/30)  Descriptive Statistics – Displaying Univariate Data
Week #3  (9/2-9/6)    Descriptive Statistics – Summarizing Univariate Data
Week #4  (9/9-9/13)   Display and Summarize Bivariate Data
Week #5  (9/16-9/20)  Principles of Probability
Week #6  (9/23-9/27)  Discrete Probability Distributions
Week #7  (9/30-10/4)  Continuous Probability Distributions

Fall Break (10/7-10/11)

Week #8  (10/14-10/18) Sampling
Week #9  (10/21-10/25) Confidence Intervals
Week #10 (10/28-11/1) Hypothesis Testing (One Group)
Week #11 (11/4-11/8)  Hypothesis Testing (Multiple Groups)
Week #12 (11/11-11/15) Simple Linear Regression
Week #13 (11/18-11/22) Multiple Regression I

Thanksgiving Break (11/28-12/1)

Week #14 (11/26 & 12/3) Multiple Regression II
Week #15 (12/5)    Final Review
Americans with Disabilities Act/Special Accommodations. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

Academic Misconduct. Per University of Utah regulations (Policy # 6-400). “A student who engages in academic misconduct,” as defined in Part I.B. and including, but not limited to, cheating, falsification, or plagiarism, “may be subject to academic sanctions including but not limited to a grade reduction, failing grade, probation, suspension or dismissal from the program or the University, or revocation of the student's degree or certificate. Sanctions may also include community service, a written reprimand, and/or a written statement of misconduct that can be put into an appropriate record maintained for purposes of the profession or discipline for which the student is preparing.” Please refer to the Student Code for full elaboration of student academic and behavioral misconduct policies (http://regulations.utah.edu/academics/6-400.php).

Wellness Statement. Personal health and wellness are essential to your success as a student. Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student’s ability to succeed and thrive in this course and at the University of Utah. Please speak with the instructors before issues become problems. And, for helpful resources, contact the course-assigned SSA or the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Sexual Misconduct. Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Learners of English as an Additional/Second Language. If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (http://writingcenter.utah.edu/); the Writing Program (http://writing-program.utah.edu/); the English Language Institute (http://continue.utah.edu/eli/).
Please let us know if there is any additional support you would like to discuss for this class.

**University Safety Statement.** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.