



SOCIAL STATISTICS I

Department of Sociology, Social Work and Anthropology
 SOC 3120, Section 001, Fall 2016, CRN 42435
 Tuesday/Thursday, 12:00-1:15 pm
 Merrill-Cazier Library, Room 302

Instructor: Stephen G. VanGeem, PhD
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 Office: Old Main 224D
 Office hours: Tuesday/Thursday 1:30-2:45 pm in the ****QUADSIDE CAFE****
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 Office hours: Tuesday 10:30-11:45 am in the Sociology Population Lab, Old Main 226

COURSE DESCRIPTION AND OBJECTIVES

Given the problematic nature of analysis in social scientific research, it is difficult to establish the “absolute truths” about complex social phenomena that are more detectable in the physical sciences. Statistical analysis is a mathematic tool available to researchers seeking evidence of likely differences between conditions or associations between variables. To this end, this course is designed to provide students with a very basic understanding of specific statistical techniques aimed at describing trends in data and inferring the nature of a potential relationship between two or more distinct variables.

REQUIRED TEXT AND EQUIPMENT

- Healey, Joseph F. 2010. *Statistics: A Tool for Social Research* (9th Edition). Belmont, CA: Wadsworth.
- A calculator capable of addition, subtraction, multiplication, division, and calculating square roots
- Access to the IBM data analysis program *SPSS* (available in every Information Technology Computer Lab on campus (e.g., TSC, IC, Sci-Tech, Ag-Sci, Family Life, UR)

STUDENT EVALUATION

Your course grade will be based upon eight homework assignments. Each homework assignment is worth 35 points, except for the final assignment that is worth 55 points. Every assignment will be a combination of conceptual questions, hand calculations, SPSS programming, and statistical output analysis.

Assignments 1-7	245 pts (35 pts each)
<u>Assignment 8</u>	<u>55 pts</u>
Total	300 pts

GRADING SCALE

A 280 points and above	A- 279-269
B+ 268-260	B 259-250
B- 249-239	C 229-220
C+ 238-230	C- 219-209
D+ 208-200	D 199-190
F 59 and below	

EXTRA CREDIT

You will have two opportunities to earn extra credit in this course. The first will be ongoing while the second will be a one-time event.

Your first chance at extra credit involves in-class examples. Along with the abridged lecture notes available before class, I will provide you with the prompt for an example that we will go over together in class. During the lecture, I will give one student the chance to walk the class through his or her process and calculations for extra credit before we go over it collectively as a group.

The second opportunity will be only be available on Tuesday, November 8. I have canceled class that day so that you will have at least 75 minutes to go out and vote. Email me a picture of you and your "I Voted" sticker by the end of the day in order to earn your extra credit.

LECTURES, ATTENDANCE, AND CLASS DISCUSSION

As the goal of this course is to develop a statistical skill set, attendance and class participation is an important component in order to provide students with the most interactive experience possible. Even though key components of lectures will be available to students beforehand, I may expand the scope of the material in class to include other information or narrow the focus to highlight only a few key elements. While attendance is not mandatory, it is strongly encouraged.

COURSE POLICIES

1. Even though you may think of statistics as a “math class”, the subject matter of this course is highly theoretical, which means that the material can be rather dense and difficult to understand at times. My role is to help clarify each statistical test, provide explanations and context that are not included in the readings, and answer any questions that you might have, but you are expected to read all of the assigned readings so that you can participate as fully as possible. In addition, you are responsible for knowing the content of any materials posted to the online-classroom in Canvas, including written or audio lectures.

2. Please extend courtesy and respect to your fellow students in any discussion and avoid any overtly hostile or demeaning language when reacting to another student's ideas. Repeated disrespectful and rude behavior may be grounds for dismissal from the class.

3. Late assignments will not be accepted unless: (1) you notify me 48 hours *before* the assignment is due and (2) provide me with an acceptable reason for why the assignment will be late. I may request written documentation for the excuse if deemed necessary. If you do not follow this procedure then you will receive a zero on the assignment.

4. Plagiarism and cheating will not be tolerated. While I encourage group work, you must provide evidence of how you arrived at an answer. You may not receive credit for an entire assignment if it is apparent that you did not do the work yourself.

5. This syllabus is not a contract. I reserve the right to modify this syllabus at any time throughout the semester and will give you ample notification beforehand via class-wide announcements. It is your responsibility to stay abreast of any changes made.

6. In line with university policy, students with disabilities who are in need of academic accommodations must (1) register with and provide documentation to the Disability Research Center (DRC) and (2) bring a

memorandum from the DRC to the instructor indicating the need for accommodation and what type. This should be accomplished within the first two weeks of the semester. Additional information can be accessed at www.usu.edu/drc/

7. In accordance with the Family Educational Rights and Privacy Act (FERPA), academic progress in this course will be kept private from all third parties unless waived by the individual student. This waiver, along with other information, can be found at <http://www.usu.edu/registrar/htm/ferpa>.

8. If you have a problem, please do not hesitate to contact me. It is easiest to reach me via email, although I do request that you include your *first name*, your *last name*, your *A number*, and the *course number* in all correspondence. I check my email account daily, so if you need to contact me, you can expect a response within 24 hours, but you should not wait until the last minute before deadlines to write to me with questions.

TENTATIVE SCHEDULE AND ASSIGNED READINGS

WEEK 1: Course/Syllabus Introduction (Tuesday, August 30)

Chapter 1, pp. 1-9

Levels of Measurement (Thursday, September 1)

Chapter 1, pp. 9-20

WEEK 2: Introduction to Descriptive Statistics/Percentages, Ratios, and Rates (Tuesday, September 6)

Chapter 2, pp. 21-31

Frequency Distributions (Thursday, September 8)

Chapter 2, pp. 31-62

WEEK 3: Measures of Central Tendency (Tuesday, September 13)

Chapter 3, pp. 63-87

Measures of Dispersion (Thursday, September 15)

Chapter 4, pp. 88-117

WEEK 4: The Normal Curve and Translating Z-scores (Tuesday, September 19)

Chapter 5, pp. 118-136

HOMEWORK #1 DUE at the beginning of class

Probability and Odds (Thursday, September 22)

WEEK 5: Introduction to Inferential Statistics/Sampling (Tuesday, September 27)

Chapter 6, pp. 141-156

HOMEWORK #2 DUE at the beginning of class

Confidence Intervals (Thursday, September 29)

Chapter 7, pp. 157-180

WEEK 6: Introduction to Hypotheses of Difference (Tuesday, October 4)
Chapter 8, pp. 181-198

More Hypothesis Testing with Z-scores (Thursday, October 8)

WEEK 7: One-Sample t-Tests (Tuesday, October 11)
Chapter 8, pp. 198-211
HOMEWORK #3 DUE at the beginning of class

Two-Sample Hypothesis Testing (Thursday, October 13)
Chapter 9, pp. 212-225

WEEK 8: **NO CLASS (Tuesday, October 20)**

****NO CLASS** (Friday Schedule, Thursday, October 22)**

WEEK 9: Dependent Samples t-Tests/Effect Sizes (Tuesday, October 25)
Chapter 9, pp. 226-241
HOMEWORK #4 DUE at the beginning of class

Analysis of Variance Tests (ANOVAs) (Thursday, October 27)
Chapter 10, pp. 242-271

WEEK 10: More ANOVAs (Tuesday, November 1)

Chi-Square Tests (Thursday, November 3)
Chapter 11, pp. 272-302
HOMEWORK #5 DUE at the beginning of class

WEEK 11: **NO CLASS (Election Day, Tuesday, November 8)**

Two-Sample Chi-Square Tests (Thursday, November 10)

WEEK 12: Introduction to Hypotheses of Association (Tuesday November 15)
Chapter 12, pp. 307-337
HOMEWORK #6 DUE at the beginning of class

Ordinal Variables (Thursday, November 17)
Chapter 13, pp. 338-367

WEEK 13: Interval-Ratio Variables and Association (Tuesday, November 22)
Chapter 14, pp. 368-375

****NO CLASS** (Thanksgiving Break, Thursday, November 24)**

WEEK 14: Bivariate Correlation and Regression (Tuesday, November 29)
Chapter 14, pp. 375-401

Adding More Variables/Partial Correlation (Thursday, December 1)

Chapter 15, pp. 405-432; Chapter 16, pp. 433-439

HOMEWORK #7 DUE at the beginning of class

WEEK 15: Multivariate Regression and Correlation (Tuesday, December 6)

Chapter 16, pp. 439-467

Choosing a Statistical Test (Thursday, December 8)

FINALS WEEK: HOMEWORK #8 DUE is due by 5pm on Monday, December 14