

Instructor: Dr. Stephanie Hilwig
Course: Sociology 311, Social Statistics
Time: TTh 1:00 – 2:15 **Room:** MCD 181
W 9:00 – 9:50
Office Hours: MWF 1:00 – 2:00 **Office:** MCD 382
TTh 11:00 – 12:00
or by appointment

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Prerequisites for Social Statistics:

SOC 201

BUS 120

MATH 104 or MATH 106

REQUIRED TEXTBOOKS:

Social Statistics for a Diverse Society by Chava Frankfort-Nachmias and Anna Leon-Guerrero. 7th Edition. Pine Forge Press: 2015.

COURSE OBJECTIVES:

This course presents a general overview of the statistical methods most commonly used in sociology and the social sciences. As a laboratory component, students will become proficient in SPSS, a computer program designed to aid statistical analysis. These skills will enable the student to: read popular applications of statistics in the media with a critical eye; assess the use of statistics in the professional sociological literature; and use statistical tools to answer the sociological questions of interest.

STUDENT LEARNING OUTCOMES: Students will be able to:

1. Compute and interpret basic statistics
2. Demonstrate proficiency in SPSS
3. Determine the correct statistical technique for various data sets
4. Use correlations and regressions to describe relationships between variables
5. Explain what a sampling distribution is
6. Test hypotheses about means, proportions, cross-tabulations and regression coefficients.

7. Read and interpret statistical information in professional and scholarly publications

ASSIGNMENTS AND GRADING:

Chapter Problems: 20% of Grade

Students will be expected to complete a series of problems at the completion of each chapter. These exercises at the end of each chapter are divided into two sections. You will be asked to complete some SPSS problems and some chapter exercises. Because some of these problems will require the use of SPSS that comes packaged with your book, it is imperative that you have access to a computer in which you can install the SPSS Student version or access to a computer lab with SPSS installed when you choose to do your homework assignments. You are allowed to work on homework assignments in groups. I simply ask that you collaborate with peers rather than simply copying down the answers. Working with others on the homework assignments should be a learning process helping to prepare you for the upcoming exams.

Each assignment will be graded on a 3 point scale. Successful completion and understanding of the assignments will result in a possible score of 3 for each assignment. In order to receive a 3, the assignment does not need to be error free, just demonstrate a clear understanding of the material and concepts. Assignments in which some basic understanding of material was understood, but many errors exist will result in a score of 2. An excessive number of mistakes demonstrating little or no understanding of the material will result in a score of 1. Not completing an assignment will result in a 0.

Exams: 60% of grade (each exam worth 20% of final grade)

Three exams will be administered for this course. Each exam will involve problem solving. The tests should not be administered until after all prerequisite assignments have been completed and graded. Each test is open book and open note.

Project and E-Portfolio: 20% of grade

At the completion of all assignments and exams, you will be required to work with a partner and submit a statistics project demonstrating your competency working with statistics and SPSS. This project will require you to select 4 variables from the data sets provided either with your textbook or a data set from the Pew Research Center and conduct an analysis of the data. You will be required to provide appropriate averages and

variations of each variable. You will be required to provide an appropriate graphic display of the variables. Finally, you will be required to test for a relationship between the variables using the appropriate statistical technique. The project should be about 5-10 pages with all appropriate tables, graphs, and a written summary of each step in your analysis. I will be working with your group throughout the semester in stages that correspond with your learning the material.

The final project will be submitted into a working and ongoing E-portfolio. Wix.com site is one site that will work well for this assignment, although others may be used as well. All that is required in your E-portfolio website, is an introductory page describing yourself and your goals and a site highlighting your work as a Sociology major. On this site, you will describe your project, as well as its findings, while attaching a copy of your final project. This will be used in the future to demonstrate your skills to potential employers. Think of this site as the development of an online resume, demonstrating your expertise in several areas that will increase your employment opportunities

Grading:

A	90 % and above
B	80 – 89 %
C	70 – 79 %
D	60 – 69 %
F	59 % and below

Persons with Disabilities:

Adams State University complies with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Adams State University is committed to achieving equal educational opportunities, providing students with documented disabilities access to all university programs, services and activities. In order for this course to be equally accessible to all students, different accommodations or adjustments may need to be implemented. The Office of Accessibility Services (OAS) is located in Richardson Hall 3-100, or available at OAS@adams.edu, and 719-587-7746. They are your primary resource on campus to discuss the qualifying disability, help you develop an accessibility plan, and achieve success in your courses this semester. They may provide you with letters of accommodation, which can be delivered in two ways. You may give them to me in person, or have the Office of Accessibility Services email them. Please make an appointment with their office as early as possible this semester so that we can discuss how potential accommodations can be provided and carried out for this course. If you have already received letters of accommodation for this course from OAS, please provide me with that information privately so that we can review your accommodations together and discuss how best to help you achieve equal access in this course this semester.

Academic Freedom and Responsibility: for courses that do not involve students in research:

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

Academic Misconduct

Students should abide by all student ethical conduct, especially those rules pertaining to cheating and plagiarism. Plagiarism, cheating, or any other form of academic dishonesty will not be tolerated in this course. Any student engaging in academic dishonesty in this course can expect a failing grade for the course and formal charges to be brought before the Department Chair.

Student Sexual Misconduct Policy

Our school is committed to fostering a safe, productive learning environment. Title IX and our school policy prohibit discrimination on the basis of sex, which regards sexual misconduct — including harassment, domestic and dating violence, sexual assault, and stalking. We understand that sexual violence can undermine students' academic success and we encourage students who have experienced some form of sexual misconduct to talk to someone about their experience, so they can get the support they need.

As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility related to my role as a responsible employee as designated under Title IX. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in our one-on-one meetings. I will seek to keep information you share private to the greatest extent possible. However, I am required to share information regarding sexual misconduct or information about a crime that may have occurred on Adams State University Campus or that may be impacting an ASU student.

Confidential support can be found at the Adams State University Counseling Center located in Richardson Hall 3100 and may be contacted at 719-587-7746. Students may also fill out an anonymous "concern form" at <https://www.adams.edu/students/ccc/>. Crisis support can be found in the San Luis Valley community 24/7 at San Luis Valley Comprehensive Mental Health Center: 719-589-3671 or Tu Casa: 719-589-2465. Tu Casa offers services for victims of sexual assault and domestic violence.

Alleged violations can be reported to the Adams State University Title IX Office, Director Ana Guevara, at 719-587-8213 or at anaguevara@adams.edu. The ASU Title IX Office is

located in the Student Union Building (SUB) room 327. Reports to law enforcement can be made to Adams State University Police Department at #1 Petteys Hall or contacted at 719-587-7901, 911, or 24 hour dispatch at 24 hour dispatch: 719-589-5807 (State Patrol).

COURSE OUTLINE: Outline is tentative and likely to change

Reading

Assignment

Week 1 – Jan 14th

This chapter focuses on the role of statistics and data in the research process. Special focus should be on independent and dependent variables, levels of measurement, discrete vs. continuous variables, and the difference between descriptive and inferential statistics. This chapter also provides an introduction to SPSS and the data, provided with the textbook that will be used for homework assignments.

The Research Process

Chapter 1

Chapter Exercises: 3, 4 and 6

Week 2 – Jan 21st

As the first organizational technique to make sense of large sets of data, frequency distributions allow researchers to have an initial picture of the data. Frequency distributions simply calculate how many observations fall into each category. Calculating percentages and proportions is also covered in this chapter.

Frequencies

Chapter 2

SPSS Problems: 1 and 4

Chapter Exercises: 1, 6, 9, 11 and 13

Week 3 – Jan 28th

This chapter provides an introduction for graphing data. Pie graphs, histograms, bar graphs, and time series charts are all covered. The chapter also discusses the use of graphs and how they can visually distort the data if not constructed carefully.

Graphing statistics

Chapter 3

SPSS Problems: 1 and 4

Chapter Exercises: 2, 3, 6 and 12

Week 4 – Feb 4th

A common method for summarizing data is by selecting a single number that best represents the distribution of a variable. Calculating an average is the most common measure of central tendency for representing the data. This chapter will focus on calculating and using the mean (average), median, and mode to represent the data.

Measures of Central Tendency

Chapter 4

SPSS Problems: 3 and 4

Chapter Exercises: 2, 6, 11, 13 and 14

Week 5 – Feb 11th

Knowing the average value for a set of data is often not enough to fully understand the distribution of a variable. It is also important to understand how much variation exists in that variable. Do most values cluster around the mean, or are most values much higher or much lower than the mean? If the average grade on a test was a 72, does that mean most people scored close to a 72, or did many students score very low while several more scored very highly? This chapter will focus on different statistical techniques for measuring the variation in a variable.

Measures of Variability

Chapter 5

SPSS Problems: 1 and 5

Chapter Exercises: 1,3, 9, 12 and 15

Week 6 – 18th

Review

Exam 1 on Thursday Feb 20th

Week 7 – Feb 25th

In this chapter, we begin to learn the theoretical basis for using a sample as a predictor or indicator of the entire population. If we survey 500 people in the United States regarding their choice for a presidential nominee, will the results be similar to the actual vote come election time? Knowledge of the normal distribution or bell curve is crucial to understanding how we can relate or compare our sample to the entire population. Focus is on proportions under the curve and z-scores.

The Normal Distribution

Chapter 6

SPSS Problems: 1

Chapter Exercises: 1, 2, 7, 9, 13 and 14

Week 8 – March 3rd

Before we can understand how samples can be compared to the general population, it is important to understand how samples are drawn and how a theoretical understanding of samples helps us to estimate how representative our sample is of the actual population.

Sampling Distributions
Chapter 7

Chapter Exercises: 1, 2, 4, 6, 8 and 11

Week 9 – March 10th

Based on our understanding of the normal distribution and sampling distributions, it is now possible to estimate how similar our sample is to the actual population. Focus will be on estimating how confident we are that our sample compares to the actual population and how much error we can expect in our sample.

Estimation and Confidence Intervals
Chapter 8
Chapter Exercises: 1, 2, 5, 6, 11, 12 and 14

SPSS Problems: 1

Week 10 – March 24th

Hypothesis testing is a statistical technique that allows us to compare populations, using only sample statistics. Researchers may want to know if the average earnings of men is higher than the average earnings of women. T-tests and hypothesis testing allows us to compare two groups and estimate whether the difference in the sample is likely in the actual population.

T-tests and hypothesis testing
Chapter 9
Chapter Exercises: 3, 5, 6, 10, 12 and 14

SPSS Problems: 1 and 4

Week 11 – March 31st

Review
Exam 2 on Thursday April 2nd

Week 12 – April 7th

Often when conducting research, it is not just important to examine each variable, but the researcher will also want to examine the relationship between two variables. Does gender influence one's political viewpoints? Focusing on categorical variables, this chapter shows the most common statistical technique for examining the relationship between two variables.

Cross-tabulation
Chapter 10
Chapter Exercises: 1, 2, 6, 8, 9 and 10

SPSS Problems: 3

Week 13 – April 14th

In earlier chapters we examined the relationship between two categorical variables using cross-tabulations and measures of association. Neither of those two statistical techniques allowed us to generalize our sample to the actual population. For example, if we see a difference in our sample between gender and political party, is that difference likely to exist in the actual population. The chi-square statistic allows us to answer that question.

Chi-Square
Chapter 11

SPSS Problems: 1 and 3
Chapter Exercises: 2, 3, 6, 7 and 9

Week 14 – April 21st

Regression and correlations are a useful statistical technique for describing the strength and nature of the relationship between two continuous variables. Regression allows us to determine how much one variable is likely to change (increase or decrease) based on increasing or decreasing another variable. For instance, does educational level lead to an increase in income? If so, how much does it increase income? How certain is this increase likely to be? Regression and correlations help to answer these questions when the variables are continuous.

Regression and Correlation
Chapter 13
Chapter Exercises: 2, 5, 11 and 12

SPSS Problems: 1 and 5

Week 15 – April 28th

Finish regression and projects. Review for Final Exam

FINAL EXAM