Sociology 314: Analyzing Social Statistics
Fall 2013
Class Meetings: Mon. & Wed. 3:30-4:50 PM
Classroom: KAP 148 and KAP 305

Professor: Jennifer Rosen
Office: HSH 306
Office Hours: Wed. 11:30-1:30 & by Appointment
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Office Hours: Mon & Wed. 2:15-3:15
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Course Description

This course focuses on the "doing" of social science research using quantitative methods. Sociologists are concerned with many topics, ranging from demographic trends to discrimination and equality to industrialization and democracy. We create theories to explain the similarities, differences, and trends we see and these theories are oftentimes based on statistical data. We also subject these theories to rigorous empirical testing to assess whether they are good theories and whether they hold up across different situations, populations, and scenarios. This is a crucial difference between Sociology and "common sense." While the latter arises from casual and non-random observations of the social world, sociological conclusions are based on systematic, numerous, and representative observations.

This course focuses on how statistics can be used to answer questions, describe data, and increase your ability to be a critical consumer of the information you encounter every day in books, newspapers, television, and other media. For many students, taking a statistics course brings up fear and anxiety. *Please don't be afraid!* We will work together to make statistics more approachable, and you will leave this course with a solid understanding of the benefits of social science statistics. I will provide you with an introductory understanding of how to use statistics to interpret and analyze real data, while keeping statistical formulas and proofs to a minimum. Instead, emphasis is given to building conceptual frameworks and gaining practical skills for conducting data analysis. As you will see long after you finish this course, the value of understanding statistics goes far beyond academic pursuits. Journalists, market researchers, business analysts, teachers, and lawmakers all use data and statistical analysis in their professions, making this knowledge one of the most marketable skill sets for social science majors!

Course Objectives

Statistics in the social sciences involves the collection, analysis, interpretation, and presentation of data to answer questions about the social world. The specific topics covered in this course include data description, statistical inference, hypothesis testing, analysis of association and variance, an introduction to regression analysis, and a basic understanding of computer-based statistical software. You will learn how statistics can help you answer questions about the social world and enhance your ability to think through problems.

Upon completing this course you will be able to:

1. Describe the structure and characteristics of statistical data;
2. Calculate and interpret measures of central tendency and variability in statistical data;
3. Assess the strength of association between sociological variables;
4. Determine whether observed statistical patterns and associations are generalizable to the larger social world;
5. Achieve a basic understanding of statistical and database computer software;
6. Identify and carryout basic statistical analyses used in sociological inquiry;
7. Become a critical consumer who can assess the validity of the data, graphs, charts, and statistics you encounter in academic books, journal articles, newspapers, television, and other media sources.

Your class assignments and labs will require you to gain a working familiarity with SPSS. SPSS is a statistical software package widely used in the social sciences.

Course Requirements and Grading

Required Materials

Nearly all of the readings required for this class are found in:

Levin, Jack & James A. Fox. 2011. *Elementary Statistics in Social Research: The Essentials* (3rd Edition). San Francisco: Allyn & Bacon.

You should carefully read each chapter *before* we discuss it in-class. Doing so will make the lectures much easier to follow. Additional required journal articles that are listed on the syllabus will be posted on Blackboard. *You will also need a calculator that has square root and squaring keys.*

Attendance/In-Class Assignments   (10%)

Understanding statistics is widely applicable to your lives. Therefore, each lecture and lab session will provide you new information and examples of how the concepts really work. In the interest of a productive and interesting learning environment, you are expected to attend all scheduled classes and be prepared to participate (do the readings!).

There will be *several short in-class assignments*, the dates of which will be randomly selected throughout the course of the semester. These assignments will count towards your attendance grade. Generally, an absence will only be excused for university approved activities, required court appearances, religious holidays of your faith, and medical emergencies.

Civility: We hope this goes without saying, but we will say it anyways*: it is important that we treat each other with respect so that everyone feels free to express their viewpoint and ask questions during class without fear of incivility or rudeness from others.* Expressing disrespect and intolerance towards others will not be tolerated. If you do not feel comfortable discussing any of the topics in this course, please come talk to me privately.

<u>Technology:</u> Cell phones are strictly prohibited in class. Make sure all ringers are turned off before entering the classroom. Additionally, while you are able to use your computer to take notes, please *do not browse the internet during class*. While you may think you are being subtle, it is very obvious from the professor and TA's perspectives when students are doing this. Ringing cell phones and web browsing will result in the reduction of your final grade.

Exams   (15% each)

There will be four in class exams that will each account for fifteen percent of your grade. They will consist of conceptual (multiple choice) and computational questions. I believe it is more important that you know when and how to use the concepts and formulas we discuss in the course, than it is to memorize formulas. Therefore, in order to avoid having you focus on rote memorization of statistical formulas, most relevant formulas will be provided on the exams. Exams will require you to use a calculator that has square root and squaring keys.

Problem Sets   (10% each)

There will be three at-home problem set assignments that will each account for ten percent of your grade. These homework assignments will focus on describing, calculating, graphing, and interpreting statistics.

<u>Collaboration</u>: You may discuss and work on these problem sets with your classmates, but you are responsible for turning in the homework in your own words. In other words, while you may collaborate with other students on how to solve the problem sets, you may not copy or paraphrase someone else's work, and you must submit all computer output that you have done yourself.

Extra Credit

Towards the end of the semester you will have the opportunity to complete an extra credit assignment, similar to the problem sets, in order to boost your total grade. The extra credit assignment will be discussed in more detail during the semester.

Late Work Policy

Unless you have arranged with me *before* the due date of the assignments, you should turn your assignments in by the beginning of class on the day it is due. Assignments will be docked one full grade for every 24 hours that it is late. No make-up exams will be offered except for students that face extremely extraordinary situations that are completely outside of their control.

Plagiarism

Plagiarism is theft. It is absolutely against university as well as class policy. We are very strict about plagiarism. It is punishable with penalties including expulsion from the university. It also is unfair to your fellow students and cheapens university life. It is easy to recognize copied material and we also use the Turnitin program to help us.

Your final grade will be calculated as follows:

Requirement	Percentage of Final Grade
Attendance and In-Class Assignments	10%
Four In-Class Exams (15% each)	60%
Three At-Home Problem Sets (10% each)	30%
TOTAL	100%

There will be an extra credit assignment that can boost your final grade!

Services for Students with Disabilities
Please talk to me privately if there is anything that may adversely affect your ability to complete course requirements so that we may discuss a reasonable accommodation. Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. The DSP is located in STU 301 and is open 8:30 a.m. – 5:00 p.m., Monday through Friday. Website and contact information for DSP:http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html
 (213) 740-0776 (Phone); (213) 740-6948 (TDD only); (213) 740-8216 (FAX); ability@usc.edu

Statement on Academic Integrity
USC seeks to maintain an optimal learning environment. General Principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, The Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://usc.edu/dept/publications/SCAMPUS/gov/ Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review should there be any suspicion of academic dishonesty. The Review process can be found at: http://usc.edu/student-affaris/SJACS/ Information on intellectual property at USC is available at: http://usc.edu/academe/acsen/issues/ipr/index.html

Summary of Assignments and Due Dates

Sept 23 Exam I
Sept 30 Problem Set Homework #1 Due
Oct 21 Exam II
Oct 28 Problem Set Homework #2 Due
Nov 18 Exam III
Dec 2   Problem Set Homework #3 Due
Dec 9   Extra Credit Due by 5PM
Dec 16 Final Exam

Course Outline*

Be Sure to Check Where the Class is Located on any Given Day! Some Classes will be in KAP 148 and others Will be in the Lab in KAP 305

Unless otherwise noted, the reading assignments are for Levin and Fox's (2011) *Elementary Statistics in Social Research: The Essentials.*

Mon, Aug 26	Introduction to the Course	KAP 148
Wed, Aug. 28	Statistics: What are they and what are they good for? READING: Ch. 1	KAP 148
Mon, Sept 2	NO CLASS – LABOR DAY	
Wed, Sept 4	**LAB** -- Introduction to the GSS Survey and Data Analysis READING: DeVeaux and Hand (2005) *How to Lie with Bad Data* Davis and Smith's *NORC General Social Survey User's Guide.* Pp. 1-22	**KAP 305**
Mon, Sept 9	What is average? Measures of Central Tendency READING: Ch. 3	KAP 148
Wed, Sept 11	Average is Unusual! Measuring Variability READING: Ch.4	KAP 148
Mon, Sept 16	**LAB --** Introduction to SPSS READING: Ch. 2; Healey (2009: *Appendix F*)	**KAP 305**
Wed, Sept 18	REVIEW SESSION	KAP 148
Mon, Sept 23	**EXAM I**	KAP 148
Wed, Sept 25	Exactly How Different Are You? Calculating Z READING: Ch. 5	KAP 148

Mon, Sept 30	Introduction to Inferential Statistics READING: Ch. 6 **Problem Set Homework #1 Due**	KAP 148
Wed, Oct 2	**LAB --** Recoding Variables in SPSS READING: Paxton (2000), *Women's Suffrage in the* *Measurement of Democracy: Problems of Operationalization*	**KAP 305**
Mon, Oct 7	Socio-Logic: How We "Set Up" the Big Questions READING: Ch. 7	KAP 148
Wed, Oct 9	Identifying *Statistically Significant* Differences READING: Ch. 7	KAP 148
Mon, Oct 14	**LAB** -- Univariate Displays of Data READING: Downey (2000), *Situating Social Attitudes toward* *Cultural Pluralism: Between Culture Wars and Contemporary Racism*	**KAP 305**
Wed, Oct 16	REVIEW SESSION	KAP 148
Mon, Oct 21	**EXAM II**	KAP 148
Wed, Oct 23	Association by design or by chance? Chi-Square READING: Ch. 9	KAP 148
Mon, Oct 28	**LAB** -- Comparing Means and Distributions in SPSS **Problem Set Homework #2 Due**	**KAP 305**
Wed, Oct 30	Analysis of Variance READING: Ch. 8	KAP 148
Mon, Nov 4	Introduction to Correlation READING : Chapter 10	KAP 148
Wed, Nov 6	Predicting Outcomes with Linear Regression READING: Ch. 11	KAP 148
Mon, Nov 11	**LAB** -- Bivariate Displays of Data	**KAP 305**
Wed, Nov 13	REVIEW SESSION	
Mon, Nov 18	**EXAM III**	KAP 148
Wed, Nov 20	Finding Net Effects with Multiple Regression READING: Chapter 1 in Paul Allison's *Multiple Regression: A Primer*	KAP 148

Mon, Nov 25	**LAB** -- Correlation and ANOVA in SPSS READING: Ch. 13	**KAP 305**
Wed, Nov 27	NO CLASS -- THANKSGIVING	
Mon, Dec 2	**LAB** -- Multivariate Regression in SPSS READING: Chapter 2 in Paul Allison's *Multiple Regression: A Primer* **Problem Set Homework #3 Due**	**KAP 305**
Wed, Dec 4	TBD	**KAP 305**
Dec 7-10	STUDY DAYS **Extra Credit Due by Email No Later than Dec. 9 at 5pm**	

FINAL EXAM --- MONDAY DECEMBER 16, 2-4PM (Location TBD)

*Syllabus may change at the professor's discretion.