

SOCY 2061: INTRODUCTION TO SOCIAL STATISTICS, FALL 2008

-- M & W: 2-2:50 pm, HLMS 199 --

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Text: Agresti, A. and Franklin, C. (2007). *Statistics: The Art and Science of Learning From Data*. Upper Saddle River, NJ: Pearson.

Course Description:

A significant share of sociological research relies almost exclusively on quantitative methods (e.g., statistical analyses) to investigate social phenomena. These researchers use large national surveys, public opinion polls, and census data to document, describe, and explain a wide range of sociologically motivated research questions. As a result, students of this body of research need to have a basic understanding of statistics if they are to be active participants in the local, regional, national, and international dialog within the sociological community. The primary goal of this class is to provide each student with the requisite skills to not only understand the mainstream sociological research but also to be critical consumers of statistical information that is often presented as “factual”. Although the primary emphasis is on social research, the information and skills that you will learn in this class will be applicable to most academic and non-academic careers.

The course is divided into four sections that focus on descriptive Statistics and inferential Statistics and various applied statistical techniques. Descriptive statistics are methods that allow you to present a set of scores in a parsimonious summary form that measure individual and social characteristics (e.g., socioeconomic status, self-esteem, residential segregation). The primary concepts that we emphasize are *central tendency* (e.g., mean, mode, median) and *dispersion* (e.g., standard deviation, variance, inter-quartile range). Inferential Statistics, is the backbone of statistical reasoning and it involves making estimates about a *population* (e.g., this entire class) based on a *sample* (e.g., 10 or 12 students in the class). This process necessarily involves the invocation of the basic rules of probability and it will introduce you to hypothesis testing which is used throughout the physical, behavioral, and social sciences. We will review bivariate and multivariate statistical techniques.

Course Requirements:

Participation: Attendance to class and recitation section is mandatory. Any changes in the course syllabus and other announcements will be made in class and students are responsible for this information. There will be a small quiz in each recitation. Lecture attendance (10 pts) and recitation attendance/quiz scores (90 pts.) will count as **100 points** of your overall grade.

Examinations: There will be four in-class examinations (see schedule below). Each examination is cumulative. Any missed examination will result in a score of 0 and make-up examinations will be given only in the case of a documented emergency. Each examination is worth 100. Your examinations will count as **300 points** of your overall grade. Your exam points will be the best 2 or the first three exams plus the score on your 4th exam. That is, you can drop your lowest test score. However, 1) you cannot drop your last exam; and 2) you must pass all four exams in order to drop your lowest score. If you do not pass all four exams then you will receive the average based on all four exams.

Problem Sets: There will be 4 homework assignments in the class worth 25 points each for a total of **100 points**. All of the homework assignments are due on the day of the corresponding examination. Please turn your homework in with your examination. No credit will be given for assignments turned in late. Homework will be posted to CULearn at the beginning of each section.

Grades: Final grades are based on students' total point score as determined by participation and performance on examinations and homework assignments. Grades are based on a total of 500 points and are presented in the table above.

Communications: Email is an official form of communication. You are responsible for checking your University of Colorado official email address on a regular basis. **To send me an email, you must use SOCY2061 as the subject of your email.** This can be followed by whatever subject you'd like (e.g. SOCY2061: homework #3) but your message must start with SOCY2061. I will read and respond to email send to me from this class only during my office hours.

Policies for Students with Special Needs

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services (DS) early in the semester so that your needs may be addressed. DS determines accommodations based on documented disabilities (303-492-8671, Willard 322, www.colorado.edu/sacs/disabilityservices)

Religious Holidays

Please contact the instructor regarding any conflicts between religious observance dates and course examinations or assignments.

Classroom Behavior and Honor Code Policies

As a result of extensive discussions with and recommendations from faculty and students, a new classroom behavior policy procedures and honor code system have been adopted by the University. Please see (<http://www.colorado.edu/policies/index.html>) and (<http://www.colorado.edu/academics/honorcode/>) for more information, respectively.

Grade	Percent	Points
A	100.0	95 500
A-	94.9	90 474
B+	89.9	87 449
B	86.9	83 434
B-	82.9	80 414
C+	79.9	77 399
C	76.9	73 384
C-	72.9	70 364
D	69.9	60 349
F	59.9	0 299

Week

Schedule and topics

1	Section 1	25-Aug	Central Tendency Read: Ch 1: 1-18	27-Aug	Dispersion I Read: Ch 2: 25-43
2		1-Sep	No Class	3-Sep	Dispersion II Read: Ch 2: 49-73
3		8-Sep	Contingency and Correlation Read: Ch 3: 93-111	10-Sep	Regression Read Ch 3: 114-125
4		15-Sep	Exam # 1 -- HW#1 DUE	17-Sep	Probability Read Ch 5
5	Section 2	22-Sep	Probability distributions Read Ch 6	24-Sep	Sampling distributions Read Ch 7
6		29-Sep	Confidence intervals I Read Ch 8: 355-371	1-Oct	Confidence Intervals II Read Ch 8: 373-383
7		6-Oct	Significance Tests I Read Ch 9: 407-425	8-Oct	Significance Tests II Read Ch 9: 428-458
8		13-Oct	Exam #2 -- HW#2 DUE	15-Oct	Difference in proportions Read Ch 10: 467-479
9	Section 3	20-Oct	Difference in means Read Ch 10: 481-491	22-Oct	Difference in dependent means Read Ch 10: 502-511
10		27-Oct	CI for diff means/proportions Ch 10: 485;490-491;	29-Oct	Review two-groups Read all of Chapter 10 AGAIN
11		3-Nov	Exam #3 -- HW#3 Due	5-Nov	Chi-square Read Ch 11: 545-562
12	Section 4	10-Nov	Relative Risk and Fisher exact Read Ch 11: 564-570; 575-579	12-Nov	One-way ANOVA Read Ch 14: 691-700
13		17-Nov	Regression I Read Ch 12: 587-606	19-Nov	Regression II Read Ch 12: 609-614
		24-Nov	No Class	26-Nov	No Class
14		1-Dec	Regression III Read Ch 12: 616-623	3-Dec	Multiple Regression I Read Ch 13: 641-661; 124
15		8-Dec	Multiple Regression II Read Ch 13: 663-682	10-Dec	Review
		15-Dec	FINAL EXAM (4:30-7pm) All students are required to take the examination at this time. The only exception is for students with three examinations scheduled on Dec. 15 th . If so, you need to contact me by the 2 nd week of class with copies of your syllabi indicating that an in class final examination is scheduled on that day. We will arrange an alternate day for these students after I receive this paperwork.		