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SOCY 2061: INTRODUCTION TO SOCIAL STATISTICS, FALL 2009
-- M & W: 2-2:50 pm, MUEN E0046 --

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Instructor:	Professor Jason D. Boardman	**TA:**	Kari Alexander
Office:	Ketchum (KTCH) 210	**Office:**	Ketchum (KTCH) 8
Email:	boardman@colorado.edu	**Email:**	kari.alexander@colorado.edu
Office Hours:	M 12-1:30 (and by appt.)	**Office Hours:**	M 3-4:30; Th 10:30-12

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 <u>mandatory</u>. Any changes in the course syllabus and other announcements will be made in class and students are responsible for this information. There will be small quizzes in recitation and lecture with one question graded 0 (absent), 1(attend but incorrect), and 2 (attend and correct). **100 points** of your overall grade will be based on this score. This is the same amount of points as an A+ on one examination.

Grade	Percent			Points		
A	100.0	-	95	500	-	475
A-	94.9	-	90	474	-	450
B+	89.9	-	87	449	-	435
B	86.9	-	83	434	-	415
B-	82.9	-	80	414	-	400
C+	79.9	-	77	399	-	385
C	76.9	-	73	384	-	365
C-	72.9	-	70	364	-	350
D	69.9	-	60	349	-	300
F	59.9	-	0	299	-	0

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, <u>you can drop your lowest test score</u>. 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 15 weekly homework assignments in the class worth a total of **100 points** towards your final grade. Homework will be posted to CULearn prior to the corresponding Monday lecture. Late homework will not be accepted.

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 (NO SPACE).** 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 sent to me from this class only <u>during my office hours</u>.

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.

Week	Schedule and topics			
	Monday		**Wednesday**	
1	24-Aug	Central Tendency Read: 1.1-1.3; 2.1-2.3	26-Aug	Dispersion I Read: 2.4
2	31-Aug	Dispersion II Read: 2.5-2.6 Homework #1 due in class	2-Sep	Contingency/Relative Risk Read: 3.1; 11.3
3	7-Sep	No Class	9-Sep	Correlation Read 3.2 Homework #2 due in class
4	14-Sep	Regression I Read: 3.3 Homework #3 due in class	16-Sep	Regression II Read 3.4
5	21-Sep	**Exam # 1** Homework #4 due in class	23-Sep	Probability Read Chapter 5
6	28-Sep	Probability distributions Read Ch 6 Homework #5 due in class	30-Sep	Sampling distributions Read Ch 7
7	5-Oct	Confidence intervals I Read 8.1-8.2 Homework #6 due in class	7-Oct	Confidence Intervals II Read 8.3
8	12-Oct	Significance Tests I Read 9.1-9.2 Homework #7 due in class	14-Oct	Significance Tests II Read 9.3-9.4
9	19-Oct	**Exam #2** Homework #8 due in class	21-Oct	Difference in proportions Read 10.1
10	26-Oct	Difference in means Read 10.2-10.3 Homework #9 due in class	28-Oct	Difference in dependent means Read 10.4
11	2-Nov	CI for diff means/proportions Ch 10: pp. 484-485 Homework #10 due in class	4-Nov	Review two-groups Read 10.1-10.4 AGAIN
12	9-Nov	**Exam #3** Homework #11 due in class	11-Nov	Chi-square Read 11.1-11.2
13	16-Nov	One-way ANOVA Read 14.1 Homework #12 due in class	18-Nov	Regression I Read 12.1-12.2
14	30-Nov	Regression II Read 12.3 Homework #13 due in class	2-Dec	Regression III Read 12.4
15	7-Dec	Multiple Regression I Read 13.1-13.3 Homework #14 due in class	9-Dec	Multiple Regression II Read 13.4-13.5
	THURSDAY DECEMBER 17th **FINAL EXAM (7:30am-10:00am)** Homework #15 due with Final Exam			

Section 1 (Weeks 1–5), Section 2 (Weeks 6–9), Section 3 (Weeks 10–12), Section 4 (Weeks 13–15)