SOCY 2061: INTRODUCTION TO SOCIAL STATISTICS --FALL 2019
MW 10:00am -10:50am --- GOLD A2B70

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Role	Instructor	Teaching Assistant	Teaching Assistant	Teaching Assistant
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Hours	Th 12-2	W 3:00-5:00	W 11:00-1:00	Th 3:00-5:00

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Required Texts
Leon-Guerro, A. & Frankfort-Nachmias, C. 2018. *Essentials of Social Statistics for a Diverse Society*, 3rd
     edition. Los Angeles, Sage. Companion website: https://edge.sagepub.com/ssdsess3e
Gaubatz, KT. 2015. *A Survivor's Guide to R: An Introduction for the Unititiated and the Unnerved*, Los
     Angeles, Sage. Companion website: http://kktg.net/sgr/

Course Description
A significant amount of sociological research uses 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 students of this body of research, it is important to have a basic understanding of
statistics if one is to be an active participant 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 three 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., the entire
country) based on a *sample* (e.g., a random selection of people from the country). 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 also
cover bivariate and multivariate statistical techniques in great detail and you will have an opportunity
to examine data using the statistical software *R*. We will use data from the 2018 General Social Survey
that is described in detail here: https://gss.norc.org/get-documentation

Course Requirements
Participation (10%): Attendance in lecture and recitation section is <u>mandatory</u>. Any changes in the
course or announcements will be made in class and students are responsible for this information.
Examinations (50%): There are three 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. All examinations will count the same toward your
overall grade. The third examination will be held during the final examination time but is still designed
to be a 50 minute test.
Problem Sets (40%): There are 7 homework assignments in the class. Late homework will only be
accepted in the case of a documented emergency. All homework is posted to the Canvas Page.

Course Schedule

Section 1: Descriptive Statistics

Week 1 (8/26-8/28) *Introduction to data, statistics, and R*
   ➔ Read: LG Ch. 1, TG Ch. 1-2
   ➔ **Homework 1: Due 10am, Monday, September 9th (submit online)**

Week 2 (9/4) *Graphic presentation of data*
   ➔ Read: LG Ch. 2, TG Ch. 12

Week 3 (9/9-9/11) *Central Tendency*
   ➔ Read: LG Ch. 3, TG Ch. 5
   ➔ **Homework 2: Due 10am, Monday, September 23rd (submit online)**

Week 4 (9/16-9/18) *Dispersion*
   ➔ Read: LG Ch. 4, TG pg. 30

Examination 1: Monday, September 23rd

Section 2: Inferential Statistics

Week 5 (9/25) *The normal distribution*
   ➔ Read: LG Ch. 5, TG Ch. 4
   ➔ **Homework 3: Due 10am Monday, October 7th (submit online)**

Week 6 (9/30 – 10/2) *Sampling and sampling distributions*
   ➔ Read: LG Ch. 6

Week 7: (10/7-10/9) *Estimation and confidence intervals*
   ➔ Read: LG Ch. 7
   ➔ **Homework 4: Due 10am Monday, October 21st (submit online)**

Week 8 (10/14-10/16) *Hypothesis Testing*
   ➔ Read: LG Ch. 8

Week 9 (10/21-10/23) *Hypothesis Testing Difference in Groups*
   ➔ Read: LG Ch. 8, TG pp. 32-34; 421-424
   ➔ **Homework 5: Due 10am, Monday, October 28th (submit online)**

Examination #2 – Monday, October 28th

Section 3: Bivariate Statistical Techniques

Week 10: (10/30) *Chi square test of independence*
- ➔ Read: LG Ch. 9, TG pp. 125-126,425-426
- ➔ **Homework 6: Due <u>10am Monday, November 11th</u> (submit online)**

Week 11 (11/4-11/6) *Analysis of Variance*
- ➔ Read: LG Ch. 10, TG pp. 427-428

Week 12: (11/11-11-13) *Correlation*
- ➔ Read: LG Ch. 11 over next three weeks, TG pp. 417-421
- ➔ **Homework 7: Due <u>7:30pm, December 15th</u> (submit online)**

Week 13 (11/18-11/20) *Bivariate regression*
- ➔ Read: LG Ch. 11, TG pp. 428-432

Week 14 (12/2-12/4) *Bivariate and multivariate regression*
- ➔ Read: LG Ch. 11

Week 15: (12/9-12/11) *Multivariate regression and review*
- ➔ Read: LG Ch. 11

<u>**Examination #3 – Sunday December 15th 7:30pm-10:00pm**</u>

Course Material
All lectures, homework assignments, and other materials are posted to the Course Canvas Page at:
https://canvas.colorado.edu/courses/52990

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 <u>during my office hours</u>. I will not respond to email otherwise. Lectures and other handouts will be made available online. During lecture, you may ask questions using the 'chat' feature on Canvas. Simply raise your hand and I will read your question out loud and respond to the class. If you need to speak with me after or before class, please write your question down on paper otherwise I will not be able to hear you.

Policies for Students with Special Needs
If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further

assistance. If you have a temporary medical condition or injury, see Temporary Medical Conditions under the Students tab on the Disability Services website.

Religious Holidays
Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please contact Professor Boardman via email to make arrangements. See the [campus policy regarding religious observances](#) for full details.

Classroom Behavior
Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. For more information, see the policies on [classroom behavior](#) and the [Student Code of Conduct.](#) **Please turn off your cell phone when you enter the class**. In addition, we will use our laptops in most lectures, please only have the lecture notes and your statistical program *R* open on your machine. **Please do not use any other programs, check email, browse the web, etc. It is distracting to you and those around you**.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation
The University of Colorado Boulder (CU Boulder) is committed to fostering a positive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct intimate partner abuse (including dating or domestic violence), stalking, protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, [anonymous reporting](#), and the campus resources can be found on the [OIEC website](#). Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

Honor Code
All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students who are found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the Honor Code Office website.