

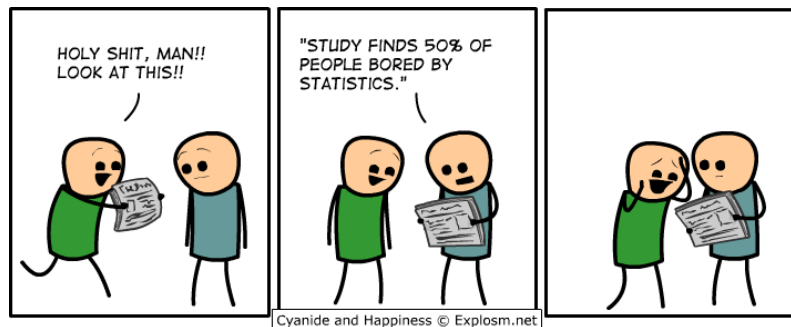
**Sociology 210**  
**Quantitative Sociological Analysis**  
**(New Title Coming Soon! The Power of Numbers: Statistics in Sociology)**  
**Colorado State University**  
**Fall 2021**

**Professor:** Dr. Pat Hastings ([Pat.Hastings@colostate.edu](mailto:Pat.Hastings@colostate.edu)). Office hours: Wednesday, 1-3pm and by appointment in Clark B248 or online

**GTA:** Jianheng Huang ([jianheng@rams.colostate.edu](mailto:jianheng@rams.colostate.edu)). Office hours: Monday/Wednesday, 2-3pm and by appointment in Clark B270 or online

**Class:** Mon/Wed/Fri, Noon-12:50pm in Engineering B101

**Canvas website:** <https://colostate.instructure.com/courses/132630>



## Overview

This course helps students think quantitatively about sociological questions, understand the basic logic of statistical inference, and perform simple quantitative analyses. Students will learn to be critical consumers of the statistics they encounter in both academic work and everyday life, and will build a strong foundation for future statistical learning. Topics will be illustrated through relevant sociological examples and applications, and will be reinforced through quizzes, assignments, and exams.

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## Learning Goals

- Understand how sociological questions can be answered with quantitative data.
  - Gain familiarity with the basic concepts, methods, and techniques of statistical analysis in sociology, including descriptive statistics, measures of central tendency and variability, probability, statistical inference and hypothesis testing, correlation, and multiple regression.
  - Develop skills for thinking critically about the statistics encountered in academic research and everyday life.
  - Build a strong foundation to excel in future social science quantitative methods courses or any other arena where it is important to make sense out of quantitative evidence.
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## Course Structure and Evaluation

The course is structured around weekly modules. The modules are described in the schedule below. Each module will typically include notes, readings, videos, a quiz, and an assignment. Attendance to lectures is important and expected, but it does not directly affect your grade. Your grade will be based on: Assignments (40%), Quizzes (25%), Exam 1 (10%), Exam 2 (10%), and the Final Exam (15%)

*Assignments:* Each week will have an assignment to put into practice the concepts you are learning. You are welcome to work with others as you complete the assignments, but write up your own assignment in your own words. Please upload the completed assignment to Canvas as a single PDF or MS Word Document. Additional instructions are included in each assignment. Feedback will be provided for each assignment. **Assignments will be due Friday at midnight.**

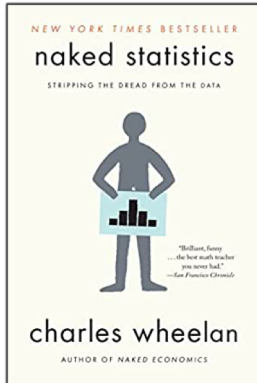
*Quizzes:* Each module will have a multiple-choice quiz that you will complete on Canvas. These will help to ensure that you have completed and understood the readings and have watched the videos assigned to each module. The quizzes will be untimed and open-book, and they will be graded immediately after being submitted so that you can assess your comprehension. **Quizzes will be due by noon (before class) on Wednesdays.**

*Exams:* The three exams will be given to evaluate your understanding of the main ideas and concepts, not how well you can memorize facts. You may use your book, readings, notes, and a calculator on the exams, but you cannot obtain help from others. The exams will be cumulative, but mostly focused on new material.

*Final Grades:* Grades will be assigned on an A-F, +/- system (fractions of a percent will be rounded up to the nearest whole number) as described in the table. If you have any issues or concerns with your grades, contact me as soon as possible. Incompletes will only be granted in exceptional circumstances.

Numeric grade	Letter grade
97.01-100	A+
92.01-97	A
89.01-92	A-
86.01-89	B+
82.01-86	B
79.01-82	B-
76.01-79	C+
69.01-76	C
59.01-69	D
below 59	F

*Late work:* I understand that many factors may affect when you can do the work for this class. Assignments will be due at midnight Friday will have an additional 24-hour grace period during which they will still be accepted without penalty (e.g., they will be accepted without penalty until midnight Saturday). This policy may be adjusted depending as the semester progresses. Beyond that, I will try to be as flexible as possible, but late work may not be accepted beyond that without prior approval except under exceptional circumstances. If you know something is coming up, talk to me before things are due or as soon as you can.



## Readings and Calculator

There is one required book for this course. This inexpensive book is not a textbook, but describes statistics in a simple(r) way to help you focus on the purposes of statistics. As such, the class material will be a slightly more technical than the book.

Wheelan, Charles. 2013. *Naked Statistics: Stripping the dread from the data*. W. W. Norton & Company.

<https://www.amazon.com/Naked-Statistics-Stripping-Dread-Data/dp/039334777X/>

All other materials for the course (readings, notes, videos) will be posted on Canvas.

You will need a scientific calculator (e.g., one that can take the square root of a number). You do not need a graphing calculator. Your smartphone will probably work, but you might find it easier to have a dedicated calculator. Here's one that costs just \$9:

<https://www.amazon.com/Texas-Instruments-TI-30Xa-Scientific-Calculator/dp/B00000JBNS>

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## How Do I Learn This Stuff?

Since this is a course about data and statistics, it will likely feel different from other sociology courses you have taken. Here is some advice:

- Most of the material is cumulative, so it is **absolutely essential that you keep up with the course material. If you find yourself falling behind, ask for help!**
- **Do ALL the readings and watch ALL the videos.** These are not “supplemental” to my lectures and notes, but in fact are meant to be an integral part of the course. My lecture material assumes that students have already completed the appropriate readings and videos, and there are specific questions from them on the quizzes.
- Being good at statistics requires thinking through how to solve problems. Statistics cannot be learned simply by reading a book or listening to a lecture. You should not expect to really understand the material until after you have completed the relevant assignments. **You can also learn a great deal (and save some time!) by working with others on the assignments.**
- Learning to do statistics is in many ways like learning a language. It gets easier the more you use it. **Start the assignments early so you have time to work on them in multiple sessions** and so can get help if you need it.
- Finally, know that I am aware that many of you are dealing with more challenging situations—including family responsibilities, mental and physical health issues, precarious housing, and unstable work schedules. **My hope is that this class is enjoyable and useful to you, without being a tremendous burden. If there are external factors that are detrimentally affecting your performance in this class, please feel free to let me know** and I will take that into account as well as I can.

## **COURSE SCHEDULE**

The will likely evolve as the course progresses. Updates will be made through announcements in class and on Canvas.

<b>Module</b>	<b>Week</b>	<b>Topic(s)</b>
1	8/23-8/27	Here we go! What's statistics? What's data?
2	8/30-9/3	Measuring the "middle" and "spread" of a data distribution: mean, median, mode, range, standard deviation
3	9/7-9/10	Relating two variables: correlation <i>Note: 9/6 is a holiday. No class!</i>
4	9/13-9/17	Probability and expected values.
5	9/20-9/24	Applications and misapplications of probability
6	9/27-10/1	Good data. Bad data. Synthesis and <b>Exam 1 (10/1)</b>
7	10/4-10/8	The normal distribution: baby steps
8	10/11-10/15	The sampling distribution and Central Limit Theorem: this is where the magic happens.
9	10/18-10/22	Inference: making claims about a population from a sample.
10	10/25-10/29	Polling: applications of inference.
11	11/1-11/5	Regression with two variables: prediction and explanation
12	11/8-11/12	Multiple regression: crush the confounders and feel the power! Synthesis and <b>Exam 2 (11/12)</b>
13	11/15-11/19	Problems with regression, especially with p-values. Reading "real" research
	11/22-11/26	Fall Break
14	11/29-12/3	Data management and analysis: wait, we can just do all this with a computer?
15	12/6-12/10	More data. More analysis. More fun!
	12/15	<b>Final Exam (scheduled for Wednesday, 12/15 at 7:30-9:30am)</b>

## Other Important Matters

*In-Class Decorum:* Please be prepared to give the class your full concentration. Avoid checking email/social media/etc during class time. If it is distracting, I will ask you to stop (which is awkward for everyone). Even if you do it stealthily, you are distracting yourself, and doing well in this course, will likely require your full attention during class. Colorado State University has stated five Principles of the Community: inclusion, integrity, respect, service and social justice (<http://diversity.colostate.edu/principles-of-community/>). Your conduct in this class should adhere to these to help us generate an open, tolerant, and respectful learning environment that we can all flourish in.

*COVID-19: Important information for students:* All students are expected and required to report any COVID-19 symptoms to the university immediately, as well as exposures or positive tests from a non-CSU testing location. If you suspect you have symptoms, or if you know you have been exposed to a positive person or have tested positive for COVID, you are required to fill out the COVID Reporter (<https://covid.colostate.edu/reporter/>). If you know or believe you have been exposed, including living with someone known to be COVID positive, or are symptomatic, it is important for the health of yourself and others that you complete the online COVID Reporter. Do not ask your instructor to report for you. If you do not have internet access to fill out the online COVID-19 Reporter, please call (970) 491-4600. You may also report concerns in your academic or living spaces regarding COVID exposures through the COVID Reporter. You will not be penalized in any way for reporting. When you complete the COVID Reporter for any reason, the CSU Public Health office is notified. Once notified, that office will contact you and, depending upon each situation, will conduct contact tracing, initiate any necessary public health requirements and notify you if you need to take any steps. For the latest information about the University's COVID resources and information, please visit the CSU COVID-19 site: <https://covid.colostate.edu/>.

*Communication:* Communication will be critical for our collective success. In general, I am happy to answer simple questions via email or Canvas messages. I check email/Canvas frequently, but feel free to reach out again if you don't hear from me within 24 hours. If an issue is complex, I will ask that we set up a time to meet. You can also speak with me before or after class.

*Office hours:* I encourage you to use my office hours to discuss issues you may face or if you simply need help with the material and assignments. I am also happy to meet with you at a different time that works better for you (it's easiest if you suggest some times when you reach out). Likewise, the course GTA is available for virtual office hours (in addition to the lab). Please email either of us to arrange a meeting if the posted office hours do not work.

*Copyrighted Course Materials:* Please do not share material from this course in online, print, or other media. Course material is the property of the instructor who developed the course. Materials authored by third parties and used in the course are also subject to copyright protections. Posting course materials on external sites (commercial or not) violates both copyright law and the CSU Student Conduct Code. Students who share course content without the instructor's express permission, including with online sites that post materials to sell to other students, could face appropriate disciplinary or legal action.

*Academic Integrity:* This course will adhere to the CSU Academic Integrity Policy as found on the Student Responsibilities page of the CSU General Catalog (<https://catalog.colostate.edu/general-catalog/policies/students-responsibilities/#academic-integrity>) and in the Student Conduct Code (<https://resolutioncenter.colostate.edu/wp-content/uploads/sites/32/2018/08/Student-Conduct-Code-v2018.pdf>) Do your own work. Don't cheat. If you are unsure what is permissible, please speak with the

instructor. Violations will result in a grading penalty and be addressed through the appropriate University mechanisms.

*Accommodations:* If you have a diagnosed learning or physical disability, which may require special accommodations, please talk to me at the beginning of the course. The Student Disability Center (<https://disabilitycenter.colostate.edu>) can also help facilitate your individual needs. I will work with you and to make sure any individual needs are appropriately accommodated.

*Support:* Any student who may be the victim of sexual harassment, sexual misconduct, relationship violence, stalking or retaliation is encouraged to report to CSU through one or more of the following resources:

- Emergency Response 911
- Deputy Title IX Coordinator/Office of Support and Safety Assessment (970) 491-1350
- Colorado State University Police Department (non-emergency) (970) 491-6425

For counseling support and assistance, please see the CSU Health Network, which includes a variety of counseling services that can be accessed at: <http://health.colostate.edu/> And, the Sexual Assault Victim Assistance Team is a confidential student resource that does not have a reporting requirement and that can be of great help to students who have experienced sexual assault. The web address is <http://www.wgac.colostate.edu/need-help-support>.

Need Help? CSU is a community that cares for you. If you are struggling with drugs or alcohol and/or experiencing depression, anxiety, overwhelming stress or thoughts of hurting yourself or others please know there is help available. Counseling Services has trained professionals who can help. Contact 970-491-6053 or go to <http://health.colostate.edu>. If you are concerned about a friend or peer, tell someone by calling 970-491-1350 to discuss your concerns with a professional who can discreetly connect the distressed individual with the proper resources (<http://supportandsafety.colostate.edu/tellsomeone>). Rams take care of Rams. Reach out and ask for help if you or someone you know is having a difficult time.