

# SOC 56 – Introductory Social Statistics

University of California-Davis

Fall 2021

## Lecture (Live & via Zoom)

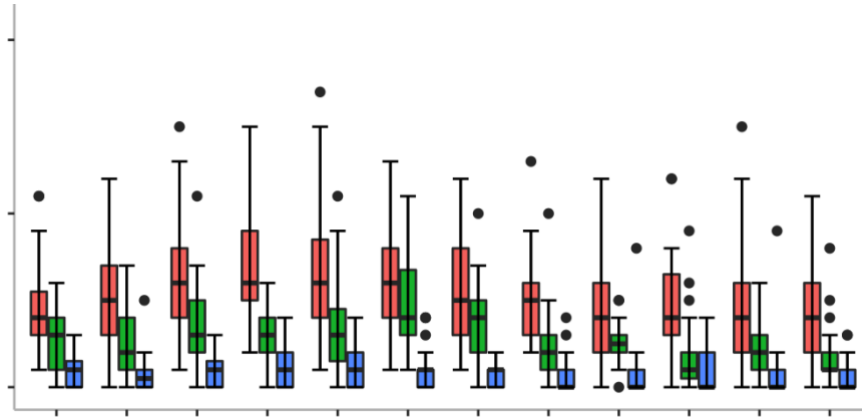
Young Hall 194

Mondays & Wednesdays, 3:10pm-5:00pm

## Laboratory (Live & Asynchronous at-home)

Hutchison Hall 93

Fridays (time varies by section)



## Instructor

Evan W. Lauteria (he/him/his)

[ewlauteria@ucdavis.edu](mailto:ewlauteria@ucdavis.edu)

Office Hours:

*In-Person*

Social Sciences & Humanities Building, Room 288

Wednesdays, 11:00am-11:50am (Pacific)

*Online (via Zoom)*

[Click Here](#)

Thursdays, 4:10pm-5:00pm (Pacific)

## **Course Description**

This course covers the logic and practice of quantitative data analysis in the social sciences, with topics including but not limited to the presentation of quantitative information, probability and randomness, basic statistical inference, and hypothesis testing. Students will also familiarize themselves with basic R functions in the service of computer-based data analysis. Between these two learning outcomes, SOC 56 aims to [fulfill UCD requirements for learning quantitative literacy](#), provide a foundation for more advanced quantitative methods courses (like SOC 106), and equip students with tools for understanding statistics and data in the everyday world.

## **Course Textbook**

This course uses *Intro Stats* (5th Edition), by Richard D. De Veaux, Paul F. Velleman, and David E. Bock (ISBN-10: 0134210239 ; ISBN-13: 9780134210230).

*The University has already granted you access to the e-text via the "Bookshelf" link on the lefthand menu of our Canvas page. If you purchase the textbook elsewhere, you need to "opt out" of the Bookshelf option.*

We will use this text for its reading material and ungraded (optional) practice problems only; students are encouraged to use the text but will not be directly penalized for lack of access. All homework assignments, quizzes, and labs are available through Canvas without the textbook.

### Assessment and Evaluation

This course has two grading schemes in this course, designed for (1) students who are new to descriptive and inferential statistics broadly, and (2) students who need this course for the laboratory credit but already have some background in statistics. The second requires sufficient evidence of statistical knowledge in the form of an assessment (see "Option 2" below).

#### Option #1

| Assignment                              | Points     | Percent     | Due (by 11:59pm)  |
|---|------------|-------------|---|
| Weekly Comprehension & Practice Quizzes | 15 x 8     | 24%         | Each Thursday by 11:59pm<br>(Except Oct 28 <sup>th</sup> and Nov 25 <sup>th</sup> ) |
| Weekly R Laboratory                     | 15 x 8     | 24%         | Each Saturday by 11:59pm<br>(Except Oct 30 <sup>th</sup> and Nov 27 <sup>th</sup> ) |
| Mid-Term Exam                           | 100        | 20%         | Wednesday, October 27 <sup>th</sup><br>3:10pm-5:00pm (Week 6)                       |
| Final Exam                              | 150        | 30%         | Thursday, December 9 <sup>th</sup><br>1:00pm-3:00pm (Finals)                        |
| Course Evaluations                      | 10         | 2%          | Friday, December 3 <sup>rd</sup>  |
| <b>TOTAL</b>                            | <b>500</b> | <b>100%</b> |   |

#### Option #1 Assignments

Each week we will meet (and stream online) to cover statistical reasoning, practice problems, and basic R coding. Following Wednesday's lecture, students will complete an online comprehension and practice problem quiz which covers the material from that week. Friday's laboratory may be completed in-person or at home, but the answers to the laboratory quiz must be submitted by 11:59pm on Friday regardless of option selected.

The midterm exam will cover descriptive statistics, as addressed in weeks 1 through 6; the final exam will be cumulative. Both exams will take 45 minutes and consist of approximately 20 multiple choice questions and 1 free response (mathematics) question. Students must complete these exams in-person (see "First Day and Exams" below).

### Option #2

| Assignment                      | Points     | Percent     | Due (by 11:59pm)  |
|---------------------------------|------------|-------------|---|
| Statistics Knowledge Assessment | 105        | 24%         | Monday, September 27 <sup>th</sup><br>3:10pm-5:00pm (Week 2)                        |
| Weekly R Laboratory             | 15 x 8     | 24%         | Each Saturday by 11:59pm<br>(Except Oct 30 <sup>th</sup> and Nov 27 <sup>th</sup> ) |
| Data Assignment #1              | 100        | 20%         | Wednesday, October 27 <sup>th</sup><br>3:10pm-5:00pm (Week 6)                       |
| Data Assignment #2              | 150        | 30%         | Thursday, December 9 <sup>th</sup><br>1:00pm-3:00pm (Finals)                        |
| Course Evaluations              | 10         | 2%          | Friday, December 3 <sup>rd</sup>  |
| <b>TOTAL</b>                    | <b>500</b> | <b>100%</b> |   |

### Option #2 Assignments

Students who have completed AP Statistics, STA 13, or a similar introductory statistics course may opt to complete an assessment during week 2 (location TBA) during lecture time. If a student passes this test with an 80% (B-) or higher, they are allowed to skip all weekly quizzes, lectures, and exams, instead completing an original data project for credit. Laboratory assessments are still mandatory but can be completed either in-person or at home.

The data assignments, in lieu of examinations, will require students to develop a survey project, gather data, and produce original findings from those data. Data assignment #1 will require a comprehensive overview of the project, sampling method, and hypotheses; data assignment #2 will be the project write-up, with required graphs and tables and univariate and, if appropriate, bivariate hypothesis tests.

**Please note:** these “options” are distinct and separate. Students may not switch midway through the quarter. By default, it is assumed that students are taking option 1. That is, students who do not complete and pass the statistics knowledge assessment will be graded under “option #1.”

### Live Lectures vs. Streaming

In the interest of minimizing the potential spread of COVID-19, this course will allow students to view lectures at home via Zoom. The instructor will stream the lecture live while teaching assistants (TAs) will monitor the chat window on Zoom for questions and points of clarification. Attendance will not be taken during lectures.

Anyone attending live lecture must wear a face mask that covers both the nose and chin simultaneously. In the interest of minimizing the spread of COVID-19, try to maintain distance by leaving one seat open between students whenever possible.

### Weekly R Laboratory Tutorials

As required by the Sociology major, this course includes a “laboratory” component. These weekly lab tutorials utilize R, a language and free software environment for statistical computing and graphics. Each laboratory assessment will draw from lecture material and apply statistical concepts to real world data analysis. Don’t be scared; each tutorial is designed to hold your hand through the process, and you are encouraged to attend live laboratory sessions to ask questions of your TA.

To receive credit for each week’s laboratory tutorial, you must complete an online Canvas “quiz” based on material covered in the lab. This is not a quiz in the traditional sense. Rather, you will be asked to take notes during the laboratory tutorial and report on those notes via Canvas. Completing the laboratory tutorial will provide you with the answers you need to receive full credit.

### First Day and Exams

To minimize the spread of COVID-19, the first day of class and subsequent exams will be administered in split meeting times. We will split the class by even vs. odd section number to ensure some level of social distancing during exams. Exams will differ between sections to ensure a fair assessment of knowledge. Your examination times are as follows:

|                        | First Day Lecture<br>Wednesday, September 25 <sup>th</sup> | Midterm Exam<br>Wednesday, October 27 <sup>th</sup> | Final Exam<br>Thursday, December 9 <sup>th</sup> |
|------------------------|--|---|--|
| Sections<br>01, 03, 05 | 3:10pm-4:00pm  | 3:10pm-4:00pm                                       | 1:00pm-1:50pm                                    |
| Sections<br>02, 04, 06 | 4:10pm-5:00pm  | 4:10pm-5:00pm                                       | 2:00pm-2:50pm                                    |

### Course Evaluations

Everyone will receive 2% on their final grades for free as long as 75% of the class completes the online evaluation. I will not know who submitted vs. who did not, nor are your responses traceable; I merely know the overall percent who submitted. These reviews are really important for evaluating instructional performance and for graduate students on the job market. Please be sure to fill them out before the last day of class!

### Daily Symptom Survey

Any student entering a campus building or facility must complete the daily symptom survey prior to entering. This applies to live lecture and laboratory attendance. TAs and the instructor will be checking your symptom survey results at the door to each classroom. Please understand that we do this in the interest of student safety. If you do not have your symptom survey, you will be asked to exit and complete the survey outdoors before re-entering.

Students who receive a yellow or red symptom survey result will be asked to leave. You may watch the lecture via Zoom instead.

### **Illness, Tardiness, Malaise, and Ennui**

This pandemic sucks. If you or a loved one falls ill or if you have a family emergency, late submissions may be accepted on a case-by-case basis. Please email the instructor and your laboratory teaching assistant as soon as you are able, and we will make arrangements accordingly. Your health is of utmost importance, especially during this time.

However, do know that this course is fast-paced, and it is easy to fall behind. Please do your best to stay on top of the work and course materials when you are able. I will do my best to work with you on appropriate accommodations, but the work will quickly become too difficult if you fall more than a week or two behind. Please discuss with the instructor if you feel you have significantly fallen behind.

### **Academic Misconduct**

Academic misconduct involves behavior in which a student engages in dishonest acts, taking an action that gives them an unfair advantage over others, or engages in behavior that creates the appearance of dishonesty. It also includes behavior in which a student fails to follow course or exam rules, or disrupts the educational environment. You are in violation of the UC-Davis Academic Code of Conduct if at any time you allow someone else to login and/or complete your coursework on your behalf, utilize online feedback meant for another student (including quiz answers), or submit work or assignments that are not your own. Probable cases of academic misconduct will be sent to the [Office of Student Support and Judicial Affairs](#) for review.

### **Students with Disabilities and Special Accommodations**

Any student who feels that they may need an accommodation based on the impact of a disability should contact the Student Disability Center to receive proper support and a letter of accommodation. I will aim to meet the needs of students as I best can.

### **Changes to the Syllabus**

I reserve the right to make changes to this syllabus during the quarter, though all changes will come with appropriate advance notification and will always be in the service of aiding and promoting student success.

## Course Schedule

| Week   | Topics & Readings<br>(complete before class)  | Thursday Quiz<br>(due 11:59pm)                         | Friday Lab<br>(due Saturday 11:59pm)               |
|--|---|--|--|
| 01: Sept 22 <sup>nd</sup> -<br>Sept 26 <sup>th</sup> | <ul style="list-style-type: none"> <li>• Course Introduction &amp; Syllabus</li> </ul>  | --   | --   |
| 02: Sept 27 <sup>th</sup> -<br>Oct 3 <sup>rd</sup>   | <ul style="list-style-type: none"> <li>• Algebra Review</li> <li>• Chapter 1: Stats Starts Here</li> </ul>  | Online Quiz 01 –<br>Syllabus & Chapter 1               | Lab 01 – Displaying and<br>Describing Data in R    |
| 03: Oct 4 <sup>th</sup> -<br>Oct 10 <sup>th</sup>    | <ul style="list-style-type: none"> <li>• Chapter 2: Displaying &amp; Describing Data</li> <li>• Chapter 3: Relationships between Categorical Variables</li> </ul>                           | Online Quiz 02 –<br>Chapters 2 & 3                     | Lab 02 –<br>Displaying One<br>Categorical Variable |
| 04: Oct 11 <sup>th</sup> -<br>Oct 17 <sup>th</sup>   | <ul style="list-style-type: none"> <li>• Chapter 4: Understanding and Comparing Distributions</li> <li>• Chapter 5: The Standard Deviation as a Ruler and the Normal Model</li> </ul>       | Online Quiz 03 –<br>Chapters 4 & 5                     | Lab 03 – Box Plots and<br>Comparing Distributions  |
| 05: Oct 18 <sup>th</sup> -<br>Oct 24 <sup>th</sup>   | <ul style="list-style-type: none"> <li>• Chapter 6: Scatterplots, Association, and Correlation</li> <li>• Chapter 7: Linear Regression</li> </ul>   | Online Quiz 04 –<br>Chapters 6 & 7                     | Lab 04 –<br>Regression                             |
| 06: Oct 25 <sup>th</sup> –<br>Oct 31 <sup>st</sup>   | <ul style="list-style-type: none"> <li>• Chapter 8: Regression Wisdom</li> </ul>  | <i>Midterm Exam on Wednesday<br/>(no quiz, no lab)</i> |  |
| 07: Nov 1 <sup>st</sup> -<br>Nov 7 <sup>th</sup>     | <ul style="list-style-type: none"> <li>• Chapter 12: From Randomness to Probability</li> </ul>  | Online Quiz 05 –<br>Chapters 12                        | Lab 05 –<br>Simulations and<br>Probability         |
| 08: Nov 8 <sup>th</sup> -<br>Nov 14 <sup>th</sup>    | <ul style="list-style-type: none"> <li>• Chapter 13: Sampling Distribution Models and Confidence Intervals for Proportions</li> <li>• Chapter 14: Confidence Intervals for Means</li> </ul> | Online Quiz 06 –<br>Chapters 13 & 14                   | Lab 06 –<br>Confidence Intervals                   |
| 09: Nov 15 <sup>th</sup> -<br>Nov 21 <sup>st</sup>   | <ul style="list-style-type: none"> <li>• Chapter 15: Testing Hypotheses</li> <li>• Chapter 16: More About Tests and Intervals</li> </ul>  | Online Quiz 07 –<br>Chapters 15 & 16                   | Lab 07 –<br>Hypothesis Testing                     |
| 10: Nov 22 <sup>nd</sup> -<br>Nov 28 <sup>th</sup>   | <ul style="list-style-type: none"> <li>• Chapter 17: Comparing Groups</li> <li>• Chapter 18: Paired Samples and Blocks</li> </ul>   | <i>Thanksgiving Holiday<br/>(no quiz, no lab)</i>      |  |
| 11: Nov 29 <sup>th</sup> -<br>Dec 5 <sup>th</sup>    | <ul style="list-style-type: none"> <li>• Chapter 19: Comparing Counts</li> <li>• Final Review</li> </ul>  | Online Quiz 08 –<br>Chapters 17, 18, 19                | Lab 08 –<br>Chi-Squared Tests                      |

**Final Exam: Thursday, December 9<sup>th</sup> (check “First Day and Exams” for your exam time)**