Sociology 3307/3307L

Statistics for Sociology

Cal Poly Pomona Department of Sociology
Spring 2025

Professor: J.N. Redman, PhD
Email:
Class Location:
Class Time:
Office Hours

Course Description

This is not a math course. In fact, we will do almost no calculations this semester. Instead, consider this a language course. One designed to teach you how to talk about a very important type of numbers: statistics. With this new language, you will be able to tell stories about what is happening in the real world and ideally to play a role in transforming it. Equally important, you will learn what goes on behind the statistics with which we are inundated daily. In this regard, I hope you will leave class with both a respect for the power statistics offer society and a deepened skepticism of those who claim to legitimately wield that power.

We are surrounded by statistics on a daily basis, but how these meaning-ful numbers get created is not always clear. For whatever reason, people find statistics persuasive. This makes them powerful, even if, as we will see, they are not always what they are made out to be. In this class, we will learn both how statistics get constructed and why we should sometimes take them more seriously, and other times be somewhat skeptical of the power with which they are invested.

This course will also train you in the use of the statistics computer program "SPSS" A.K.A. the Statistics Program for Social Scientists. This is the statistics program most commonly used by governmental and nonprofit organizations. So, if nothing else, it may be helpful to learn the basic functions of this program if you intend to go into a career in the public sector, social work, criminology, or nonprofits.

Course Learning Outcomes

- Learn basic statistical techniques and hypothesis testing to make predictions using quantitative data.
- Produce statistical findings using statistical software SPSS.

- Communicate and justify statistical findings through written, oral, and visual methods.
- Achieve the ability to interpret quantitative methods used in articles, books, videos, etc.
- Enhance your ability to use critical reasoning in designing your own analyses, as well as appraising others.

Class Format

This class will be taught as a hybrid class, meaning it will have video lectures posted on Mondays, and in-person examples, labs, and homeworks on Wednesdays. *Watching the lecture videos is required for attendance as is in-person attendance to all Wednesday meetings*. I will pretty much walk you through the labs and homeworks, so it is really in your best interest to be there (plus, it's required). Seriously, I cannot emphasize it enough. If you come to class on Wednesday and watch my videos you will have no problem earning a good grade in this class. Can you earn an A without showing up? Who knows, maybe? But I know for certain it will be 3 times as much work.

Required Texts

I have designed the course so that you can succeed just by viewing the lectures, completing the labs/HW's, and studying for the exams. **So, there is technically no "required" text**. However, I understand that different students have different needs/learning-styles, and some people may benefit from reading the corresponding recommended chapters prior to each lecture. If you find yourself struggling in this course, I strongly encourage you to complete the recommended readings prior to viewing the corresponding lectures, but many students fill find that they are able to take enough away from the lectures and assignments alone.

Since the lectures draw examples from both *Salkind* (Statistics for People Who Think They Hate Statistics) and *OpenStax* (Introductory Statistics), you may choose which textbook you prefer. Salkind is more accessible (but costs money), while Openstax is more comprehensive (but is free). I will include page numbers/ associated chapters for both in the syllabus below.

Similarly, you should be able to learn all you need to know about SPSS from the labs/HWs, but if you feel like you need/want more info about SPSS, I highly recommend *Pallant* (SPSS Survival Manual) and will include page numbers for that as well.

I'll post a link to all of OpenStax and PDF's relevant excerpts from Salkind and Pallant to Canvas. *So, most likely, you do not need to buy anything* (unless you prefer a physical copy - might be helpful for Salkind – but it's entirely up to you). If you do choose to purchase any of the books below, don't waste your money on the newest editions! Math barely changes – so older (and cheaper) editions are recommended.

Recommended Resources (see above)

- **OpenStax - Illowsky et al, (2012) Introductory Statistics. Open Source (OpenStax) – Available at following link:** https://openstax.org/details/books/introductory-statistics
- Salkind, N. J. (2008). Statistics for people who (think they) hate statistics Sage Publications, Inc. (3rd, 4th, 5th, or 6th edition).
- Pallant, Julie. SPSS Survival Manual : a Step by Step Guide to Data Analysis Using SPSS. Maidenhead :Open University Press/McGraw-Hill, 2010. 3rd, 4th, 5th, or 6th edition.

Required Technology

You will need access to a COMPUTER in order to complete the labs and homework assignments. The SPSS program that we will be using is expensive, **do not buy it**. *You may download the program via CPP for FREE.* Bring your laptop to our first meeting, and we will go through the process for downloading the program together. You will also have access to it via the lab computers on campus (as well as in the library).

However, in order to access it when you are not on campus, you will need to download program from CPP's software for students (I'll walk you through on the first day). You may also access it through the Virtual Lab, however, downloading seems to be a safer bet. The program will only work on Windows, Linux, and Mac, so if you do not have one of those operating systems (e.g. Chromebook, Android tablet, etc.), or if you do not have a working or reliable laptop, consider contacting the school about a loaner laptop for the semester, or plan on completing all your assignments during class or at the library. This last option is totally possible since you will have lots of time in class to work on Wednesdays.

Academic Honesty

Cheating of any kind will not be tolerated and will be reported through the University system and, at minimum, will result in a failing grade for the assignment or exam in question. Some examples of this are working together or sending answers to Exams or Homework (you may, however, work together on Labs). While you may work together on Labs, you cannot simply submit the *exact same* file for these. If you are unsure, ask me before!

Grading Breakdown

Assignment	*Points*
Labs (30x5)	150
Homeworks (60x5)	300
Midterm Exam	150
Final Exam	150
Attendance (10x10)	100
TOTAL	850

*This Grading Rubric is for all credits
*Your grade = (points earned/850) x100

IMPORTANT NOTE:

You will earn the same grade for lab as for lecture. So, if you earn an "A", it will count as *two* "A's" on your transcript. **BUT the same is true of an "F."**

For this reason, this class is *purposely designed to be accessible and straightforward*. It is designed with people who are "terrible at math" or are "bad test takers" in mind. Anyone, regardless of how bad at math or how bad at tests or how busy they are, can absolutely succeed in the class just by watching the videos, showing up every week on Wednesdays. I see it every semester. The majority of the points come from homework's and labs, which we will do together, and you are permitted to complete test corrections to earn back practically all lost exam points. So, try to see the double grade as an opportunity to earn two A's for the price of one rather than something to fear.

Moreover, I am also deeply aware that this course is required for most majors to graduate. For that reason, I am extra-lenient with deadlines, and have built in weekly opportunities for one-on-one support and feedback.

BUT none of this intentional design, leniency, or personalized help matters if folks don't show up to class or ask for help!

I have never had a student fail this class because they did not understand the material, and it breaks my heart when even one student fails unnecessarily. **So, please, please, please don't hesitate to reach out for help!**

I know it is scary and embarrassing to admit you need some extra help or a few more days to complete an assignment, but that embarrassment is well worth the relief you will feel when you get the support you need and succeed for real!

Labs and Homeworks:

We will complete seven labs and seven homeworks throughout the semester. In labs, I will walk you through the various procedures we will be learning in SPSS as well as through the process of interpreting your output and writing up your results. Labs are essentially for participation, so be sure to complete them for easy credit and practice. The homeworks, on the other hand, ask you complete the same procedures we learned in the lab, but on your own or with a partner. Therefore, homeworks are worth more points and will ask you to practice producing and interpreting statistics pertaining to variables of interest to you. Please note, *I will drop the two lowest HW grades and the two lowest Lab grades*. However, it is in your best interest to complete all of the assignments since exams will cover similar materials.

Exams:

While labs and HW's make up the bulk of your grade for this class, you will also be evaluated via a midterm and a final. The midterm will cover the materials from the first half of the course, and the final will cover the latter half. While the final is not technically cumulative, obviously some things we learn in the first half of the semester are still relevant in the second half. Exams will be a mix of fill-in-the-blank, multiple choice, and matching. They will be administered via Canvas and may be taken at your own leisure. While there may be occasional calculations necessary, in general, this class is far more concerned with the appropriate *interpretation* of statistics generated for you by a computer than with your ability to calculate statistics by hand. Also, please note both exams are open book and open notes, however, you are strongly encouraged to produce one page of handwritten notes to use.

Test Corrections and Extra Credit:

You have one week from time an exam has been *returned* to you to complete corrections for partial credit added back to your to exam grade. So, if you don't score the grade you hoped on an exam, never fear, you can get some of those points back with test corrections. Preferably, you would complete this prior to the next exam to help you study. Both exams have several bonus questions, and I will give you the topics in advance. Additionally, you will receive bonus points for filling out your course evaluation.

Attendance Policy

Since there are no required readings for this course (although there are optional/recommended chapters listed below for additional help), attendance is extremely important and therefore mandatory. Lectures will primarily be offered in pre-recorded video form. These are *required viewing*, and viewing them is part of your attendance grade. Remember, I can see whether you have viewed the videos or not… Because so many of your points come from Labs and HW's and because learning SPSS is a vital component of this class, attendance in the in-person *Wednesday*

meetings is *also mandatory*. The good news is that since so many of the points come from labs or homeworks (which we will work through together), if you attend every week and watch every video (and maybe supplement with a reading here or there), you are virtually guaranteed to pass this class and probably with a B or better.

However, I know life is life. So, to receive full attendance points, please show up to at least 70% of the classes (meaning view at least 10/14 Monday lecture videos and show up to 10/14 Wednesday Meetings. This means you are permitted to miss up to 4 lectures and 4 labs, no questions asked. If you do end up missing a Wednesday meeting, it's no problem at all. Just email me within 48 hours. If you let me know before hand, I can even record the lab/HW for you.

Late Work Policy

You are expected to complete *all* labs and homeworks within ONE WEEK of the day on which they are presented in class. So, if a lab is presented on a Wednesday, you have until the following Wednesday to submit it to the appropriate Canvas module. If you have extenuating circumstances, please contact me as soon as possible so we can work out a plan to keep you on track in the course. In general, you will lose 2 points per day on late labs and HW's unless there are extenuating circumstances. This said, please do not hesitate to reach out, because I am extremely flexible on deadlines, *provided that you give me an indication of your situation*.

Like I always say, this class should be boring, not stressful. So please never hesitate to reach out, even if you just get overwhelmed. I'm here to help, but I can only do that if you show up or reach out!

Privacy and Security

First, I will ensure that none of your assignments are located anywhere except on the Canvas page. Please always use your CPP email to contact me regarding the course; this way I can ensure that I am not giving away information about your progress in the course to anyone but you. I attempt to provide you with all of the possible materials to succeed in this course. **Please do not post my lectures, PowerPoint files, or any assignments on the internet.** ***These materials are copyrighted and doing so both disrespectful and ILLEGAL!***

Student Accommodations and Support

I am happy to accommodate the needs of students needing accommodations. To receive accommodations, students should register with the Disability Resource Center and provide documentation. Information about the DRC can be found at www.cpp.edu/~drc.

The most common accommodation that students require is extra time on tests and quizzes. The time limits on my exams are indicated in the instructions. If I give you a 60-minute time limit on a quiz, and you have DRC accommodations for 2x, you can continue working on the test after the 60-minute time limit has expired and submit by 120 minutes.

During these times I will always attempt to do my best to support you to the best of my ability. However, there are many ways in which I am ill-equipped to assist. I have provided some links and information below to resources that the University has set up.
Broncos Care Basic Needs for students experiencing food or housing insecurity
Dean of Students, which includes the Cultural Centers, the Dreamers Resource Center, the Women's Resource Center, clubs, etc.
IT Resources for students
Learning Resource Center for tutoring in many courses
Library Resource Guides
LinkedIn Learning, a very broad educational platform that students have access to via their Bronco credentials
Student Health and Wellbeing – this website leads you to many student services including Counseling, the Disability Resource Center, Health Services, the Integrated Care Network, Survivor Advocacy Services, and the Bronco Wellness Center
Student Success Central – this website leads you to many resources including those related to COVID19.
Veterans Resource Center

Title IX

The University is committed to creating and sustaining a positive learning and working environment, free from discrimination, including sexual violence, dating violence, domestic violence, and stalking. All forms of such behaviors are not tolerated and are prohibited both by law and university policy. The University will respond promptly to reports of such behavior and will take appropriate action to prevent, correct, and when necessary, discipline behavior that violates University policy. If you experience sexual assault, domestic violence, dating violence or stalking, you are encouraged to seek immediate assistance from police, a confidential sexual assault counselor or advocate, and healthcare provider for your physical safety, emotional support, and medical care. I encourage you to please review the University's TIX website for additional information: http://www.cpp.edu/~title-ix/ index.shtml.

University policy requires me, as a faculty member, to report any of the above behaviors that are disclosed to me (i.e. I am a "mandated reporter"), to the University Title IX Coordinator so that the University may take immediate action to prevent, correct, and/or discipline as appropriate. Given this, please know that if I feel that you are beginning to share information with me

concerning sexual assault, domestic violence, dating violence or stalking, I may gently interrupt you to advise you of this and to allow you an opportunity to decide whether you would like to continue to disclose this information to me or whether you would prefer a confidential resource. I care for your physical and emotional health and safety and will do my best to assist you with resources and support, which may include interim accommodations.

Diversity, Equity, and Inclusion

I am both professionally and personally committed to providing a welcoming and inclusive learning environment for *all* of the students who take my courses. These commitments mean that I will *always* strive not only to include, but to support and uplift the perspectives of students whose viewpoints and backgrounds are different from my own. I came to these commitments through an interest in feminist and critical theory and standpoint epistemology. So, while the material for this course may seem dry and impartial, I am aware that no "official" knowledge (such as statistics) is ever separate from structures of power and privilege. It is my hope that even a subject like statistics can empower students to gain a critical viewpoint on "authoritative knowledge" and give them a voice and a planform to make their perspectives known and effect positive change in the world.

Schedule

**** Please see canvas for All Dates, lecture videos, and assignments.

Unit	***Topic***	***Supplemental Readings (Optional)***	***Assignment***
Unit 1	Levels of Measurement	Pallant, Ch3 Salkind, Ch1 Salkind, Ch1 Openstax, Ch1Salkind, Ch1, Ch3 Openstax, Ch1,Ch2 Pallant, Ch6, Ch7	Lab 1 – Levels of Measurement
Unit 2	Measures of Central Tendency	Salkind, Ch2 Openstax, Ch2 Pallant, Ch6	Homework 1 - Levels of Measurement

Unit 2	Measures of Dispersion	Salkind, Ch3 Openstax, Ch2 Pallant, Ch6	Lab 2 – Descriptive Statistics
Unit 2	Descriptive Statistics and Graphs	Salkind, Ch2 Openstax, Ch2 Pallant, Ch6 Salkind, Ch3 Openstax, Ch2 Pallant, Ch6	Homework 2- Descriptive statistics
Unit 3	Association - Contingency Tables	Salkind, Ch3 Openstax, Ch2 Pallant, Ch6	Lab 3- Measures of Association
Unit 3	Association - Correlations	Salkind, Ch5, Ch15 Openstax, Ch12 Pallant, Ch11, Ch12	Homework 3- Measures of Association
Unit 4	Normal Curve	Salkind, Ch6, Ch8, Ch9 Openstax, Ch6, Ch7, Ch8 Pallant, Ch9, Ch10 Salkind, Ch7, Ch8, Ch9, Ch10 Openstax, Ch8, Ch9 Pallant, Part5 Intro, Ch10	Lab 4 – Significance and T Tests
Midterm	Midterm	Midterm	Midterm
Unit 5	T Tests	Salkind, Ch10, Ch11 Openstax, Ch8, Ch 10 Pallant, Ch17	Homework 4 – Significance and T Tests
Unit 6	ANOVA	Salkind, Ch13 Openstax Ch13 Pallant, Ch18	Lab 5 - ANOVA
Unit 6	ANOVA	Salkind, Ch13 Openstax Ch13 Pallant, Ch18	Homework 5 - ANOVA

Unit 7	Chi Square	Salkind, Ch17 Openstax, Ch11 Pallant, Ch16	Lab 6 – Chi Square
Unit 7	Chi Square	Salkind, Ch17 Openstax, Ch11 Pallant, Ch16	Homework 6- Chi Square
Unit 8	Regression	Salkind, Ch16 Openstax Ch12 Pallant, Ch13	Lab 7- Regression
Unit 8	Regression	Salkind, Ch16 Openstax Ch12 Pallant, Ch13	Homework 7 - Regression
	Final Exam	NA	Final Exam

**********PLEASE NOTE**********

All Assignments are **due one week after the date on which they are presented**. So, for example, if lab 1 were presented MondayAugust 30, it would be due the following Monday September 6th. All readings are supplemental and optional.

**********PLEASE NOTE**********