

**San José State University**  
**Department of Sociology and Interdisciplinary Social Sciences**  
**SOCI 15, Statistical Applications in the Social Sciences, Spring 2020**

**Course and Contact Information**

|                           |   |
|---------------------------|---|
| Instructor:               | Jason DeHaan  |
| Office Location:          | DMH 237A  |
| Email:                    | jason.dehaan@sjsu.edu   |
| Office Hours:             | Tuesday and Thursday, 10:00 to 10:30 am<br>Wednesday, 5:00 to 6:00 pm   |
| Class Days/Time:          | Tuesday and Thursday, 1:30 to 2:45 pm   |
| Classroom:                | DMH 162   |
| Prerequisites:            | Math Enrollment Category M-I, M-II, or M-III, or completion of a GE Area B4 course with a grade of C- or better |
| GE/SJSU Studies Category: | Area B4 Mathematical Concepts   |

**Course Description**

This course will introduce you to statistical applications, particularly statistical inference, including measures of central tendency, variation, normal distributions, probability, estimation, hypothesis testing, measures of association, correlation, linear regression and the analysis of variance.

**GE Learning Outcomes (GELO)**

The student learning and content goals for Area B4 courses include the following:

1. Using mathematical methods to solve quantitative problems. Throughout the course, we will use mathematical operations and a calculator to solve statistical problems. Students should be familiar with basic algebraic operations as we will use statistical formulas to solve statistical problems. Test items will typically include true/false questions and short answer word problems.
2. Using mathematics to solve real life problems. Practice problems, homework problems, and test questions will reflect true-to- life situations and contemporary events.
3. Arriving at conclusions based upon numerical and graphical data. Students will gain familiarity with the organization and representation of quantitative data in various forms. Students will learn to read and interpret statistical output including tables, graphs, rates, percentages, and measures of central tendency and variation.
4. Applying mathematical concepts in one or more areas. After covering introductory concepts and procedures, the course will focus on probability and statistical inference. These concepts and

methods are central to statistical analysis. By applying statistical inference, students will see how analytical techniques underscore many of the claims that they learn in Sociology courses.

5. Incorporating issues of diversity. Classroom examples and test items will frequently deal with issues of diversity. Expect examples that incorporate variations or diversities of race, ethnicity, national origin, religion, sex, physical abilities, age, marital status, citizenship, economic levels, and sexual orientation.
6. Writing requirements (minimum 500 words): In clear and concise language, students will be interpreting their results both in assignments and when responding to questions on exams. Writing skills are important. The thoroughness of explanations, coherence and conciseness will be considered in evaluating this part of students' work.

## Course Resources

### Textbook

Frankfort-Nachmias, Chava and Anna Leon-Guerrero. 2018. *Social Statistics for a Diverse Society*, Eighth Edition. Los Angeles: SAGE Publications. ISBN:9781506347202

The book is available in the bookstore (rent used: \$54.45 or buy used: \$86.95) or on Amazon.com.

Previous editions of the book are available but use them at your own risk. I do not know how well the content matches that of the eighth edition, which is the one I will be using.

### Calculator

You will need a basic calculator with the square root function. You will not be permitted to use smartphone calculators on your exams.

### Laptop

You will need access to a laptop that you can bring to class. You will be working with SPSS during class time. If you do not have a laptop or tablet that you can bring to class, you can borrow one from [Student Computing Services](#).

### Statistical Analysis Software

You will need access to IBM SPSS software. You can download it free [here](#) (sign-in with your SJSU email address- do not request access using a different account). We will install SPSS during class.

Note that SPSS will only run on MacOS, OS X, or Windows computers. It will not work on tablets running iOS or Android and there is no suitable alternative that will work on them.

### Embedded Tutor

Elaha Yakubi, a tutor from Peer Connections will be working with us this semester. She will attend each class and will be available to help answer questions during small group work. She will also hold office hours on Monday from 2:30 to 4:30 pm and Friday from 11:00 am to 1:00 pm. Her office hours will be held in Student Services 600. If you would like to meet with her, please [make an appointment](#) at the Peer Connections website.

## Assignments

| Assignment          | Due Date             | Percent of Grade |
|---------------------|----------------------|------------------|
| In-Class Activities | Varies, see schedule | 10%              |
| <b>Homework</b>     |                      | 30%              |
| Homework 1          | Feb. 11              |                  |
| Homework 2          | Feb. 25              |                  |
| Homework 3          | Mar. 17              |                  |
| Homework 4          | Apr. 14              |                  |
| Homework 5          | May 5                |                  |
| Homework 6          | May 19               |                  |
|                     |                      |                  |
| Midterm 1           | Mar. 5               | 20%              |
| Midterm 2           | Apr. 23              | 20%              |
| Final               | May 19               | 20%              |

### In-Class Activities

You will have 11 in-class activities. These will mostly consist of SPSS activities designed to help you apply what you learned in class. I will drop your lowest in-class activity score.

The in-class activities will be completed in class and can be made up only in instances of emergency or hardship.

### Homework

You will be required to complete six homework assignments. These will mostly consist of problems for you to solve and interpret your answers for. They will also help you prepare for your exams. The homework assignments are worth 30 percent of your grade overall but the point values for each will vary based on the number of chapters it covers as well as the chapter content.

The homework can be submitted up to three days late with a 10 percent penalty applied for each day it is late. Late penalties will be excused in instances of emergency or hardship.

### Exams

You will take three exams- two midterms and a final. Each of them will be worth 20 percent of your grade. The exams will contain both multiple choice and short answer questions. You will need a Scantron form 882-E, a pencil, and a calculator to complete them.

Your final exam will take place on Tuesday, May 19 from 12:15 to 2:30 pm. It will only cover content introduced after midterm 2.

You will not be permitted to use notes on the exams but I will provide you with a sheet containing any formulas that you will need.

The exams can only be taken late in instances of emergency or hardship.

### **Submitting Assignments**

Many of your assignments will be submitted on Canvas. You can find the specific times that assignments are due there.

I will not excuse late penalties due to technical problems like web browser issues, Canvas sign-in troubles, or Internet connectivity issues. You will be responsible for ensuring that the appropriate version of your assignment gets uploaded to Canvas on time. You will also need to check to be sure that the assignment loaded properly. There are sometimes technical errors where assignments do not upload or display properly, which means that I cannot grade them. If you upload the wrong file or your work does not upload properly, and this mistake is not caught until I grade your work, you will have only two options: (1) accept the grade you receive for what you submitted or (2) submit the correct assignment and accept the late penalty (based on how much time has passed since the assignment was due).

You will always have the option to resubmit your work on Canvas. Unless you direct me to do otherwise, I only review/grade the most recent submission. You can even re-submit your work after the due date/time has passed but I will apply the appropriate late penalties based on when you submitted that version (Canvas records the date and time every assignment is submitted).

I will not accept emailed or physical copies of your essays or any other work that I require to be submitted on Canvas.

### **Workload Statement**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

### **Grading Information**

#### **Late Assignments**

Information about submitting late assignments and late penalties can be found in the assignment descriptions above. I am willing to accept *any* work late in cases of emergency or hardship.

If you experience something that prevents you from submitting your work on time, I need you to discuss it with me as soon as possible. Coming to me with an issue does not guarantee that I will allow you to submit your work late or waive late penalties and I will assess each request on a case-by-case basis. If the hardship you are experiencing is something like a documented medical issue, we will just need to work out when you plan to submit your work. If it something like a personal problem that is affecting your ability to focus on school, you will just need to give me some idea of what is going on and we can figure out what would be fair and appropriate in that case (I will never ask for specific details). What is most important is that you communicate with me and give me as much notice as possible.

## Determination of Grades

Final letter grades will be assigned based on the following ranges:

| Percentage | Letter Grade |
|------------|--------------|
| 93-100%    | A            |
| 90-92%     | A-           |
| 87-89%     | B+           |
| 83-86%     | B            |
| 80-82%     | B-           |
| 77-79%     | C+           |
| 73-76%     | C            |
| 70-72%     | C-           |
| 67-69%     | D+           |
| 63-66%     | D            |
| 60-62%     | D-           |
| Below 60%  | F            |

## Grading Information for GE Courses

This course must be passed with a C- or better as a CSU graduation requirement.

## Classroom Protocol

Other than expecting you to be respectful, I do not have any specific requirements or expectations for classroom behavior. I am not bothered by cell phone or laptop use, eating in class, lateness, absences, and so on, so long as you are respectful about it. For instance, if you need to be heavily engaged with your phone or computer in a way that might be distracting, leave class. If you are late, slip in quietly and do not interrupt with questions that may have already been asked (talk to your peers later or with me after class). If you need to have a private conversation with a classmate during lecture, step out of class or wait for a more appropriate time to have that discussion.

## Email Protocol

I would like to reduce the amount of time I spend replying to emails and would appreciate it if you would consider the following when you plan to contact me:

- Unless it will somehow affect your coursework, I do not need to be notified if you are running late or are going to miss class.
- If you have questions about matters like assignment due dates or policies, please check the syllabus and/or Canvas first.
- If you missed class and want to know what you may have missed, please talk to your peers or come to my office hours.
- I prefer to talk in person whenever possible. I would appreciate you coming to my office hours with questions. If you are not available during my office hours, schedule another time with me.

I also prefer that you email me directly ([jason.dehaan@sjsu.edu](mailto:jason.dehaan@sjsu.edu)) rather than message me via Canvas. When you email me, please be sure to include the course and section number in the title.

### **University Policies**

Per [University Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) (<http://www.sjsu.edu/senate/docs/S16-9.pdf>), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo) (<http://www.sjsu.edu/gup/syllabusinfo>), which is hosted by the Office of Undergraduate Education. Make sure to visit this page to review and be aware of these university policies and resources.

# SOCl 15 / Statistical Applications in the Social Sciences, Spring 2020, Course Schedule

*Schedule is subjective to change with notice. Any changes will be announced in class and on Canvas.*

| Week | Date   | Topics and Readings  | Assignments                            |
|------|--|--|--|
| 1    | <b>Course Introduction</b>                   |  |  |
|      | Jan. 23                                      | Course Introduction  | Activity: First Day Check-In           |
| 2    | <b>Introduction to Social Statistics</b>     |  |  |
|      | Jan. 28                                      | Read: Chapter 1: The What and the Why of Statistics                |  |
|      | Jan. 30                                      |  | Activity: Install SPSS                 |
| 3    | <b>Organization and Presentation of Data</b> |  |  |
|      | Feb. 4                                       | Read: Chapter 2: The Organization and Graphic Presentation of Data |  |
|      | Feb. 6                                       |  | Activity: Graphs and Tables            |
| 4    | <b>Measures of Central Tendency</b>          |  |  |
|      | Feb. 11                                      | Read: Chapter 3: Measures of Central Tendency                      | Homework 1 Due                         |
|      | Feb. 13                                      |  | Activity: Measures of Central Tendency |
| 5    | <b>Measures of Variability</b>               |  |  |
|      | Feb. 18                                      | Read: Chapter 4: Measures of Variability                           |  |
|      | Feb. 20                                      |  | Activity: Measures of Variability      |
| 6    | <b>The Normal Distribution</b>               |  |  |
|      | Feb. 25                                      | Read: Chapter 5: The Normal Distribution                           | Homework 2 Due                         |
|      | Feb. 27                                      |  | Activity: Z Scores                     |
| 7    | <b>Midterm 1</b>                             |  |  |
|      | Mar. 3                                       | Review   |  |
|      | Mar. 5                                       | Midterm 1  |  |
| 8    | <b>Sampling and Sampling Distributions</b>   |  |  |
|      | Mar. 10                                      | Read: Chapter 6: Sampling and Sampling Distributions               |  |
|      | Mar 12                                       |  | Activity: Random Samples               |
| 9    | <b>Estimation</b>                            |  |  |
|      | Mar 17                                       | Read: Chapter 7: Estimation  | Homework 3 Due                         |

|              |                             |   |                                |
|--------------|-----------------------------|---|--------------------------------|
|              | Mar. 19                     |   | Activity: Confidence Intervals |
| 10           | <b>Testing Hypotheses</b>   |   |                                |
|              | Mar. 24                     | Read: Chapter 8: Testing Hypotheses                               |                                |
|              | Mar. 26                     |   | Activity: One-Sample T Test    |
| 11           | Mar. 31                     | <b>Spring Recess - Class Does Not Meet</b>                        |                                |
|              | Apr. 2                      | <b>Spring Recess - Class Does Not Meet</b>                        |                                |
| 12           | Apr. 7                      |   |                                |
|              | Apr. 9                      |   | Activity: Two-Sample T Test    |
| 13           | <b>Bivariate Tables</b>     |   |                                |
|              | Apr. 14                     | Read: Chapter 9: Bivariate Tables                                 | Homework 4 Due                 |
|              | Apr. 16                     |   | Activity: Crosstabs            |
| 14           | <b>Midterm 2</b>            |   |                                |
|              | Apr. 21                     | Review  |                                |
|              | Apr. 23                     | Midterm 2   |                                |
| 15           | <b>Chi-Square</b>           |   |                                |
|              | Apr. 28                     | Read: Chapter 10: The Chi-Square Test and Measures of Association |                                |
|              | Apr. 30                     |   | Activity: Chi-Square           |
| 16           | <b>Analysis of Variance</b> |   |                                |
|              | May 5                       | Read: Chapter 11: Analysis of Variance                            | Homework 5 Due                 |
|              | May 7                       |   |                                |
| <b>Final</b> |                             | Tuesday, May 19, 12:15 to 2:30 pm                                 | Homework 6 Due                 |