STAT 95: Elementary Statistics Section 5

San Jose State University Fall 2023
Department of Psychology
Instructor: Ginevra Scherini, MS
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Lecture Hours: Monday Wednesday 4:30 pm − 5:45 pm
Lecture Location: DMH 355
Office Locations: Dudley Moorhead Hall (DMH) 232 and Business Tower (BT) 660
Office Hours: Monday 3:00 − 4:00 pm in DMH 232 and Tuesday 2:00 − 3:00 pm in BT 660

Course Format

This course will be taught in-person live (synchronous) and will have assignments and content accessed through Canvas. You are responsible for regularly checking Canvas for any updates regarding assignments, materials, and exams.

Course Description

Hypothesis testing and predictive techniques to facilitate decision-making; organization and classification of data, descriptive and inferential statistics, central tendency, variability, probability and sampling distributions, graphic representation, correlation and regression, chi-square, t-tests, and analysis of variance. Computer use in analysis and interpretation.

Prerequisite

Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course
with a grade of C- or better.
Notes: Intended for Psychology majors and minors as well as for
programs in Behavioral Science, Child Development, Education, Health Science, Nursing, Nutritional Science, Social Science, and Social Work.
Please note that the ELM is no longer a prerequisite.

Learning Outcomes

GE Learning Outcomes

At the conclusion of the class, the student will be able to:

1. Learning Objective 1 (GELO1): Mathematical concepts courses should prepare the student to use mathematical methods to solve quantitative problems, including those presented in verbal form.
2. Learning Objective 2 (GELO2): Mathematical concepts courses should prepare the student to demonstrate the ability to use mathematics to solve real life problems.
3. Learning Objective 3 (GELO3): Mathematical concepts courses should prepare the student to arrive at conclusions based on numerical and graphical data.
4. Learning Objective 4 (Specific to Area B4): Focus on basic mathematical techniques for solving quantitative problems and elementary numerical calculation.
5. Learning Objective 5 (Specific to Area B4): Focus on organization, classification, and representation of quantitative data in various forms (e.g., tables, graphs, percentages, measures of central tendency, and spread).
6. Learning Objective 6 (Specific to Area B4): Focus on applications of mathematics to everyday life.
7. Learning Objective 7 (Specific to Area B4): Focus on applications of mathematical concepts to statistical inference.

Department of Psychology Program Learning Outcomes
1. Knowledge Base of Psychology: Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
2. Research Methods in Psychology: Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.
3. Critical Thinking Skills in Psychology: Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.
4. Application of Psychology: Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.
5. Values in Psychology: Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

Course Materials

Textbook
Tokunaga, Howard T. (2018). Fundamental Statistics for the Social and Behavioral Sciences 2nd Edition
ISBN-10: 1506377483
ISBN-13: 978-1506377483

Additional Resource
Illowsky, B., & Dean, S. (2020). Statistics. OpenStax.
https://openstax.org/books/statistics/pages/1-introduction

Canvas
Check Canvas frequently for grades, materials, and assignments.

Qualtrics
We will be using the online surveying software Qualtrics for assignments throughout the course. You have access to the program for free by logging in with your SJSU account single sign-on credentials through qualtrics.sjsu.com

Course Requirements
Classes will be interactive, with both the instructor and students sharing in the process. Students are encouraged to read assigned materials **prior to the class date** and be prepared for discussions and exercises. It is to your advantage to stay current with readings and assignments. During class, we will have lecture time, experiential exercises, writing assignments, group projects, and class discussion.

Writing Requirement
Part of the Stat 95 course requirement is for students to write 500 words on data analysis. We will be writing interpretations of statistical analyses and explaining their significance in homework assignments, midterm exams, and the final exam.

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. Other course structures will have equivalent workload expectations as described in the syllabus.

Classroom Etiquette:
- We are expected to treat each other with respect throughout the semester.
- When in doubt, simply treat others as you would wish to be treated.
- Computers and phones are allowed for note taking and accessing materials online during class, but should be put away during exams.

Examinations (57% of grade)
There will be a total of four examinations. Your score on the examination portion of the course will be the sum of your scores on three of the four exams - your lowest score will be dropped. If you do not take one of the four exams, that exam will be dropped. NOTE: There will be NO make-up exams without instructor consent and arrangement before the scheduled time of the exam.

The exams will be based on lecture, textbook, and homework, and will consist of multiple choice, short essay, and computational questions. Please bring pencils, a calculator (not your phone calculator) on the day of the exam.

Final examination (23% of grade)
The final exam will be similar in format to the other exams, focusing on material after the fourth exam. There will, however, be a cumulative component that addresses the critical concepts and issues covered during the semester.

Assignments (20% of grade)
There will be 9 homework assignments throughout the semester. The purpose of the homework is to build on and confirm your understanding of the material covered in lecture and textbook and provide practice for the exams. We will learn how to use software to conduct statistical analyses on using Google Sheets and the survey platform Qualtrics. Some homework assignments will involve conducting analyses using these tools and interpreting the results.

Grading Policy

I will be using Canvas for posting grades throughout the semester so that you can keep track of your progress. The team presentations and class participation points will not be determined until the end of the course as these scores will have peer comparisons. If you need guidance on your grades in the class, please connect with me. Extra credit opportunities will be available throughout the semester.

Your course grade will be based upon a weighted combination of scores on the following components:

Assignments	% of grade
Homework	20%
Exams	57%
Final Exam	23%

Percentage	Letter Grade
90% to 100%	A
86% to 89%	B+
80% to 85%	B
76% to 79%	C+
70% to 75%	C
60% to 69%	D
below 60%	F

Excused and Late Assignment Policy
If you have an excused absence (for medical reasons or otherwise unforeseen emergencies) please let me know as soon as possible and I will work with you to arrange a solution or makeup assignment. There will otherwise be no make-ups for any missed in-class activities, quizzes, or exams.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo/.

Student Resources

Psychology Department Librarian: Christa Bailey christa.bailey@sjsu.edu 408-808-2422

The SJSU library has a librarian who specializes in psychology and other social sciences. This librarian can serve as a very valuable resource for helping you develop research ideas and locating appropriate research materials. The library also has an abundance of resources for doing psychology research: https://libguides.sjsu.edu/psychology

Student Technology Resources

- MLK Library Online Resources: https://library.sjsu.edu/
- STTC's Technology Resource Guide: https://libguides.sjsu.edu/sttc
- eCampus Student Tech Resources: https://www.sjsu.edu/learnanywhere/equipment/index.php

ACCESS Success Center

The Academic Counseling Center for Excellence in Social Sciences (ACCESS) Success Center provides general education advising for undergraduate students majoring or intending to major in any of the departments in The College of Social Sciences. Find out more here: https://www.sjsu.edu/access/

SJSU Peer Connections

Peer Connections offers free tutoring, instruction assistance, and strengths coaching for SJSU students. Find out more on their website: https://www.sjsu.edu/peerconnections/index.php

SJSU Writing Center

The SJSU Writing Center offers a variety of free resources to help students become better writers. Check out their online tutoring and live tutor chat service here: https://www.sjsu.edu/writingcenter/

SJSU Counseling and Psychological Services

SJSU Counseling and Psychological Services provides personal and clinical counseling as well as clinical case management, workshops, and groups for all SJSU students. Find out more at: https://www.sjsu.edu/counseling/about/what-we-do.php

Course Schedule

Assignments are subject to change. Any changes will be posted and updated on Canvas, please check Canvas regularly for announcements and updated deadlines. The chapters to read under 'Assignments' cover topics that will be in that week's lecture.

Date	Topic:	Assignments:
Week 1 – Monday **August 21**	Syllabus, Course Intro	
Week 1 – Wednesday **August 23**	Research Process	Chapter 1
Week 2 – Monday **August 28**	Measures of Central Tendency	Chapter 3 HW 1 due
Week 2 – Wednesday **August 30**	Measures of Variability	Chapter 4
Week 3 – Monday **September 4**	No Class – Labor Day	
Week 3 – Wednesday **September 6**	Intro to Google Sheets and Qualtrics	HW 2 due
Week 4 – Monday **September 11**	Exam 1	
Week 4 – Wednesday **September 13**	Normal Distributions	Chapter 5 HW 3 due
Week 5 – Monday **September 18**	Normal Distributions (continued)	
Week 5 – Wednesday **September 20**	Normal Distributions (continued)	
Week 6 – Monday **September 25**	Probability and Hypothesis Testing	Chapters 6 HW 4 due
Week 6 – Wednesday **September 27**	Probability and Hypothesis Testing (continued)	
Week 7 – Monday **October 2**	Probability and Hypothesis Testing (continued)	
Week 7 – Wednesday **October 4**	Exam 2	HW 4 due
Week 8 – Monday **October 9**	Testing a Single Mean	Chapter 7
Week 8 – Wednesday **October 11**	Testing a Single Mean (continued)	
Week 9 – Monday **October 16**	Testing a Single Mean (continued)	
Week 9 – Wednesday **October 18**	Testing the Difference Between 2 Means	Chapter 9 HW 5 due

Week 10 - Monday **October 23**	Testing the Difference Between 2 Means (continued)	
Week 10 - Wednesday **October 25**	Testing the Difference Between 2 Means (continued)	
Week 11 - Monday **October 30**	Exam 3	HW 6 due
Week 11 - Wednesday **November 1**	Errors in Hypothesis Testing / Statistical Power	Chapter 10
Week 12 - Monday **November 6**	One-way Analysis of Variance (ANOVA)	Chapter 11
Week 12 - Wednesday **November 8**	ANOVA (continued)	
Week 13 - Monday **November 13**	Two- way ANOVA	Chapter 12
Week 13 - Wednesday **November 15**	ANOVA Qualtrics group activity	
Week 14 - Monday **November 20**	Correlation and Regression	Chapter 13 and 14 HW 7 due
Week 14 - Wednesday **November 22**	No class - Thanksgiving	
Week 15 - Monday **November 27**	Correlation and Regression	
Week 15 - Wednesday **November 29**	Correlation and Regression	HW 8 due
Week 16 - Monday **December 4**	Correlation and Regression on Google Sheets	
Week 16 – Wednesday **December 6**	Final Review	HW 9 due
Final Exam: Thursday, December 14 2:45-5:00 pm		