San José State University
Department of Psychology
Statistics 95, Elementary Statistics, Section 6, Fall 2019

Course and Contact Information

Instructor: Greg Savage, M.A.
Office Location: DMH 230
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Email: Gregory.Savage@sjsu.edu
Office Hours: Monday and Wednesday 12:00 to 1:00 PM
             Tuesday and Thursday 3:00 to 4:00 PM
Class Days/Time: Tuesday and Thursday from 6:00 PM to 7:15 PM
Classroom: DMH 353
Prerequisites: Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

Course Description
This course covers statistical concepts and the different types of statistical methods that are used in research studies (especially in social science). The topics that will be covered include a general introduction to the topic of statistics, variables and data values, samples and populations, descriptive statistics, frequency distributions and histograms, z scores, probability, sampling distributions, confidence intervals, hypothesis testing, correlation, and scatterplots.

From the catalog:
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.

GE Learning Outcomes (GELO)
Upon successful completion of this GE course, students will be able to:
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.

Learning Objective 2 (GELO2): Mathematical concepts courses should prepare the student to demonstrate the ability to use mathematics to solve real life problems.

Learning Objective 3 (GELO3): Mathematical concepts courses should prepare the student to arrive at conclusions based on numerical and graphical data.

Learning Objective 4 (Specific to Area B4): Focus on basic mathematical techniques for solving quantitative problems and elementary numerical calculation

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)

Learning Objective 6 (Specific to Area B4): Focus on applications of mathematics to everyday life Stat 95 Instructor’s Handbook 6 Learning Objective 7 (Specific to Area B4): Focus on applications of mathematical concepts to statistical inference

The above outcomes will be assessed through in-class assignments, homework assignments, quiz questions, discussion questions, and exam questions. For example, the in-class assignments might ask students to perform calculations with data (LO 4), arrive at conclusions based on the calculations they have performed (GELO 3), create graphs and tables (LO 5), or think of examples of how a person might use a certain statistical method in a real-life situation (LO 6). The quiz questions, homework questions, discussion questions, or exam questions might ask students to read a scenario and decide what statistical method should be used in that situation (GELO 1 and GELO 2); read a scenario, perform calculations, and then interpret the results (GELO 1 and GELO 2); create a graph or table based on a set of data (LO 5); or interpret a table or graph that has been provided by the instructor (LO 5).

In addition, Statistics 95 has a 500 word (minimum) writing requirement. This writing requirement will be satisfied through homework assignments, in-class assignments, and discussion board questions. In this course, students will be assessed on their ability to write about statistics clearly and coherently.

**Course Learning Outcomes**

Upon successful completion of this course, students will be able to:

CLO 1- Understand statistical concepts and vocabulary

CLO 2- Understand the statistical methods covered during the semester, including when they are used, how they are used, and why they are used in addition to the logic/theory behind each method and what each method is able to accomplish.

CLO 3- Determine what statistical method should be used in a certain situation, use that method, and then correctly interpret the results.

CLO 4- Perform certain statistical calculations and/or graphing of data
CLO 5- Solve problems involving statistics

CLO 6- Perform statistical calculations or graphing with real data sets and correctly interpret the results

CLO 7- Use statistical software

CLO 8- Understand how statistical methods fit into the big picture of research including why they are needed, how they are used, and what they are able to accomplish.

CLO 9- Understand the limitations of statistical inference in general and in specific situations

CLO 10- Understand the factors that can affect the validity of the results of a statistical procedure and be able to determine whether the results of a statistical procedure are valid in a certain type of situation.

Program Learning Outcomes (PLO)

Upon successful completion of the psychology major requirements…

PLO1 – 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.

PLO2 – 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.

PLO3 – 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.

PLO4 – Application of Psychology – Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

PLO5 – Values in Psychology – Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

Required Texts/Readings

Textbook

There is no required textbook for this course.

If you would like for me to recommend a statistics textbook (or other resource) to use as a reference, please speak with me as soon as possible.

Other technology requirements / equipment / material

Students will need to be able to use Excel outside of class. Students will need to have reliable internet access outside of class. Students will need to have a basic calculator that can add, subtract, multiply, divide, square
numbers, and find square roots. Students will need to have a phone, laptop, or tablet with internet access to complete certain activities in class (please speak with me if this will be an issue). Students will also need index cards and colored pens or pencils for certain activities.

Course Requirements and Assignments

Exams:

One midterm exam and one non-cumulative final exam will take place during the semester.

Exams might include multiple choice questions, short answer questions, and questions that ask students to perform calculations or graphing.

The midterm exam will be a take home exam that students will download from Canvas. Each student will need to complete the take-home midterm individually and bring it to class on the due date.

The midterm will be collected at the beginning of class and can’t be submitted late. If you won’t be in class on the due date of the midterm, you will need to complete the midterm early and bring it to my office hours.

The final exam will include a take-home portion and a portion that takes place in our classroom at our scheduled time. Each student will be allowed to bring one two-sided page of notes (with hand-written information) to the final exam.

You will need to bring a calculator that can perform square roots to the final exam. Students cannot use cell phones as calculators during the final exam. No Scantron will be needed for the final exam.

Even though the final exam is not technically cumulative, it will be important to remember information from earlier in the semester because later topics build on earlier topics.

All information that is mentioned in class, written on the whiteboard during class, or posted on Canvas is material that I might ask about on an exam.

Taking the final exam at a different time than the rest of the class requires prior notification, documentation (such as a note from a doctor), and the instructor’s approval (on a case-by-case basis). Cheating on exams will not be tolerated. Please refer to the section on Academic Integrity for information on the consequences of cheating.

In-class Assignments:
Each week on Thursday, each student will complete an in-class assignment that includes one or more activities. Typically, you will need to download the in-class assignment from Canvas, print it out, and bring it to class. However, there might be some weeks in which you can complete the in-class assignment on your own paper. Each week, the in-class assignment might include activities that students complete individually, activities that students complete in groups, or activities that we complete as an entire class.

The activities that we complete during the semester might include running simulations (with cards or websites), collecting data from other students or the internet, performing calculations, creating graphs or diagrams, or other types of activities.

Please bring a calculator that can perform square roots to each class session since we will often be using calculators during our activities.

You will need to have a cell phone, laptop, or tablet with internet access for certain activities.

You will also need to have a deck of 50 index cards and a set of colored pencils (or colored pens) for certain activities.

Each week on Thursday, the in-class assignment is due at the end of class (7:15 pm).

Each student will have two opportunities during the semester to either finish or complete an in-class assignment outside of class and then submit it late without a penalty.

Otherwise, all in-class assignments must be completed in class and submitted on time in order to receive credit.

All late in-class assignments must be submitted by the day of the final exam to receive credit.

**Homework Assignments:**

During each week in which we have a lecture, a homework assignment will be assigned. (The only exception will be the last week of the semester.)

Each homework assignment might include (but is not necessarily limited to) multiple choice questions, fill-in the blank questions, matching questions, short answer questions, graphing / diagramming questions, or questions asking for calculations. Some homework questions might ask for you to perform hand calculations (with work shown on paper), and some homework questions might ask for you to perform calculations with Excel.

All of the questions on homework assignments will be my own questions (since there is no required textbook).
Each homework assignment will be posted on Canvas and will be need to be submitted on paper. It is preferred that you print the assignment and complete your work on the printed assignment. If you complete a homework assignment on your own piece of paper, it will need to be clearly organized and readable.

Each homework assignment is due at the end of class on Thursday (7:15 pm).

If you know that you will be missing class on a certain Thursday, you will need to make arrangements with me to submit your homework assignment early.

Each homework assignment will lose 10% of credit for each day that is late, and all homework assignments that are submitted more than 6 days late will have a 60% penalty. Homework assignments that are submitted after 7:15 PM on the due date will be counted as one day late.

**Quizzes:**

Each week, students will complete an online quiz.

Each quiz will be posted on a website called Socrative.com and can be completed using a cell phone, laptop, tablet, or other device with internet access.

Each week on Thursday, the quiz will be activated after class (or possibly during class) and will be open until Sunday at midnight.

Each quiz will be open-notes and open-book.

Each quiz might include multiple choice, short answer, or short essay questions.

Each quiz will include questions on the current week’s material and possibly review questions.

It is fine for students to have private conversations about the questions while they are answering them. If you decide to have a private conversation about a question, it is important that you don’t give out the answer to the entire class. Also, it is important that you help the other student understand the concept and not simply give away the answer to the other student.

Late quizzes will not be accepted.

However, it is possible to earn 5 points of extra credit at the end of the semester by completing a 3-page writing assignment. If you complete this assignment, it will help you earn back any points that you have lost due to missed assignments (including missed quizzes).

**Discussion Board Responses:**

Each week, students will be required to respond to a set of 3 questions posted on the Canvas discussion board.
Each week, the first 2 questions will be short answer or short essay questions. These questions might include (but are not necessarily limited to) questions that ask you to describe your understanding of a certain topic, to analyze a real or hypothetical scenario that is presented in the question, to analyze or describe a video, website, table/diagram, or file attachment, to run simulations and describe your results, or to make up your own examples of topics.

The third question will ask you to ask a question about the current week’s material or to attempt to answer another student’s question.

Each week, you won’t be able to see other students’ answers to the first two questions before submitting your own answers. However, you will be able to see other students’ answers to the third question.

Although you can talk about the questions with each other, or look up information online to include in your answers, your answers need to show effort at putting information into your own words. Students won’t receive credit for answers that are copied from another student or from the internet. If you have any questions about paraphrasing information, please send me an email or come to my office hours.

After submitting an answer to discussion question, you will have the ability to edit your answer between the following Wednesday at noon and the following Friday at noon. If you edit an answer, you will earn partial credit for anything that is correct in your edited answer but was incorrect in your original answer.

During each week that discussion questions are assigned, your responses are due on Tuesday at midnight and will lose 10% of credit for each hour that they are submitted late. Any discussion response that is more than 6 hours late will receive a 60% penalty.

If you submit a late discussion response, only your original response will be graded. You won’t receive any credit for an edited late discussion response.

Note: “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.”

Final Examination or Evaluation

The final exam will be completed partially in class and will be similar in format to the midterm. The final exam might include multiple choice questions, short answer questions, and questions that ask students to perform calculations or graphing.

Grading Information

Exams:

Students’ answers to multiple choice questions will be graded based on accuracy (i.e., whether they are answered correctly or incorrectly).
Students’ answers to short answer questions will be graded using content rubrics.

Students’ answers to calculation / graphing questions will be graded based on how thoroughly they are completed and on accuracy.

Students will be able to receive partial credit on exam questions that ask for calculations or graphing (since these questions will have multiple steps and it is possible for an answer to be partially correct but not completely correct).

**In-class Assignments:**

Each in-class assignment will be graded based on how thoroughly it is completed, effort, and accuracy (when appropriate).

In some cases, it might be possible to earn back lost points on in-class assignments by making corrections (as long as the assignment was submitted on time and the student made a good effort to complete it).

If you ever experience difficulty while completing a certain in-class assignment, it is highly recommended that you ask for assistance. I will be able to assist students and check students’ answers during class.

**Homework Assignments:**

Students’ grades on the weekly homework assignments will be based on how thoroughly the assignments are completed and on accuracy. Students can receive partial credit on their answers to certain homework questions if their answers are partially correct but not completely correct.

**Quizzes:**

On each quiz, you will receive credit for each question that you attempt to answer and a small amount of extra credit for each question that you answer correctly.

Each quiz is worth 2 points of credit. Therefore, you can calculate the number of points that each individual question is worth on a certain quiz by dividing 2 by the number of questions asked on that quiz.

Each quiz is worth 0.2 points of extra credit. Therefore, you can find the number of extra credit points that each question is worth on a certain quiz by dividing 0.2 by the number of questions asked on that quiz.

**Discussion Board Responses:**

Your answer to each discussion board question will be graded based on a rubric that is provided along with the question. These rubrics will provide information about required (or recommended) length and required content.
Determination of Grades

Your final grade will be based on the number of points that you earn during the semester. The following table provides a breakdown of the 142 points that you can earn during the semester.

Homework Assignments (13 total)- 26 points
In-class Assignments (14 total)- 28 points
Quizzes (14 total)- 28 points
Discussion Board Responses (14 total) – 28 points
Exam 1 – 16 points
Exam 2 - 16 points

Grading Scale:

A-  90 – 100%
B – 80 – 89%
C – 70 – 79%
D – 60 – 69%
F – 59% and below

Classroom Protocol

Class Sessions: Class sessions will include (but might not be limited to) lectures, activities, quizzes, and time spent reviewing previous homework assignments. You will need to bring a calculator that can perform square roots and a phone, laptop, or tablet with internet access to each class session.

Attendance: Attending class is important because the material being discussed will be covered on exams and homework assignments. Also, each time you miss a class, you will lose points for that day’s in-class work.

Arrival times: Please come to class on time if it is at all possible. Arriving late to class is distracting to other students and can result in lost points on in-class assignments.

Behavior: Please be respectful of the other students in the class and myself. Do not have distracting conversations with other students during class. Do not use cell phones, laptops, tablets, or any other electronic devices during class for purposes other than completing in-class activities. Do not spend class time finishing homework that should have been completed during the week. Also, do not spend class time working on assignments for other courses or studying for other courses. Stay focused (and be respectful) during lectures, activities, quizzes, and discussions. Actively participate with other students and be respectful toward the instructor and other students during our in-class activities. Finally, avoid leaving class and then coming back to class (unless it is absolutely necessary) because it is distracting to other students and can result in lost points if you miss part of an activity. If you know that you need to leave class early on a certain day, please sit near the door in the back of the classroom (if possible).
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/"
Course Schedule: This schedule is subject to change with fair notice. I will inform students of any changes made to the schedule through a Canvas announcement.

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<th>Week</th>
<th>Date</th>
<th>Topics</th>
<th>Deadlines</th>
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<td>Tuesday Aug 27</td>
<td>Variables and Data Values</td>
<td>Thursday Aug 29</td>
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<td>In-class Assignment 1 due at 7:15 pm</td>
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<td>Tuesday Sept 3</td>
<td>Populations and Samples</td>
<td>Sunday Sept 1</td>
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<td>Thursday Sept 5</td>
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| 5    | Tuesday Sept 17 | Descriptive Statistics          | Sunday Sept 15  
Thursday Sept 19  
Quiz 3 due at midnight |
|      | Thursday Sept 19 | Frequency Distributions          | Tuesday Sept 17  
Discussion Set 3 due at midnight |
|      |                | Frequency Distributions          | Thursday Sept 19  
Homework 3 due at 7:15 pm  
In-class Assignment 4 due at 7:15 pm |
|      | Tuesday Sept 24 | Frequency Distributions          | Sunday Sept 22  
Quiz 4 due at midnight |
|      | Thursday Sept 26 | z scores                        | Tuesday Sept 24  
Discussion Set 4 due at midnight |
|      |                | z scores                        | Thursday Sept 26  
Homework 4 due at 7:15 pm  
In-class Assignment 5 due at 7:15 pm |
| 6    | Tuesday Oct 1  | Probability                      | Sunday Sept 29  
Quiz 5 due at midnight |
|      | Thursday Oct 3 | Probability                      | Tuesday Oct 1  
Discussion Set 5 due at midnight |
|      |                | Probability                      | Thursday Oct 3  
Homework 5 due at 7:15 pm  
In-class Assignment 6 due at 7:15 pm |
| 7    | Tuesday Oct 8  | Probability                      | Sunday Oct 6  
Quiz 6 due at midnight |
|      | Thursday Oct 10 | Probability                     | Tuesday Oct 8  
Discussion Set 6 due at midnight |
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<td>October 17</td>
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