Contact Information

Instructor: Greg Savage, M. A.
Office Location: Dudley Moorhead Hall 230
Telephone: (area code) (telephone number)
Email: Gregory.Savage@sjsu.edu
Office Hours: Fridays from 1:00 to 2:00 PM
Class Days/Time: Fridays from 10:00 AM to 12:45 PM
Classroom: Dudley Moorhead Hall 356
Prerequisites: Satisfaction of ELM requirements and 2 years of H.S. Algebra

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, the binomial test, the chi-square test, the two sample t test, One-way ANOVA, correlation, scatterplots, and linear regression.

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.
Course Goals and Learning Objectives

Course Learning Outcomes (CLO)
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- Be able to determine what statistical method should be used in a certain situation, use that method, and then correctly interpret the results.

CLO 4- Be able to perform certain statistical calculations and / or graphing of data

CLO 5- Be able to solve problems involving statistics

CLO 6- Be able to perform statistical calculations or graphing with real sets and be able to interpret the results

CLO 7- Be able to 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.

GE and Course Learning Outcomes (LO)
Upon successful completion of this 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

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 activities, homework assignments, in-class quiz questions, and exam questions. For example, the in-class activities 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 in-class quiz questions, homework 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 on a hypothetical set of data collected in that scenario, 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 activities, and essay questions on exams. In this course, students will be assessed on their ability to write about statistics clearly and coherently.

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 to use as a reference, please speak with me as soon as possible.

Other equipment / material requirements

Students will need to be able to use Excel and SPSS outside of class. I have heard that an inexpensive student version of SPSS can be purchased in Clark Hall. Also, SPSS is available on the computers in the DMH statistics computer lab (DMH 350). 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 also need colored pens or pencils for certain in-class activities.

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

Exams: One midterm exam and one non-cumulative final exam will take place during the quarter. Exams will include mostly multiple choice questions, short answer questions, and questions that ask students to perform calculations or graphing and write out their steps and their answers on the exam sheet. Each exam will also include three essay questions. The essay questions will be selected from the essay questions that appeared on the homework assignments. I will include a formula sheet with the exam (the formula sheet might not show every formula that was covered in class). I will give out a study guide for each exam. The study guide will be sent out one section at a time.

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

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 in class, or sent out to the class in the form of typed lectures, Power point slideshows, or drawings/diagrams, is material that I might ask about on exams. Taking an exam at a different time than the rest of the class requires documentation, such as a note from a doctor. Students cannot take the exam at a different time for reasons such as going on vacation during the week of the exam. Cheating on exams will not be tolerated. Please refer to the section on Academic Integrity for information on the consequences of cheating.
In-class Activities: Each week (except for 2 specific weeks), we will complete an activity during the first 45 minutes to 1 hour of class time. At the beginning of class, I will pass out the worksheet for the day’s activity. The worksheet might ask questions about demonstrations that we do as an entire class, questions that students will need to answer in groups, or questions that students need to complete individually. During each class, I will give specific instructions for how we are going to complete the current week’s activity. The activity worksheet is due each week at the end of the class session in which we completed the activity (12:45 pm) and cannot be submitted late. Each activity worksheet will be graded based on how thoroughly it is completed, effort, and sometimes on accuracy. In some cases, it might be possible to earn back lost points on activities by making corrections (as long as the activity was submitted on time and the student made a good effort to complete it). If I request corrections on one of your activities, I might request to have a meeting with you during office hours to discuss the corrections that need to be made. If you ever experience difficulty while completing a certain in-class activity, it is highly recommended that you ask for assistance. 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 also need to have colored pencils (or colored pens) for certain in-class activities.

Homework Assignments: Each week, a weekly homework assignment will be assigned that will be due on the following Friday. If you know that you will be missing class on a certain Friday, you will need to scan or take a photo of your homework assignment and upload it to Canvas before the end of class time (12:45 pm) to avoid losing credit. If you upload a homework assignment to Canvas, the assignment must be clearly readable. Each homework assignment will be posted on Canvas and will be need to be submitted on paper at the end of class. The homework assignment will focus on the current week’s topic(s). Each homework assignment will have two sections. The first section might include (but is not necessary limited to) multiple choice questions, fill-in the blank questions, matching questions, short answer questions, graphing / diagramming questions, or questions asking for calculations. Some questions will require you to perform hand calculations or graphing, some questions will require for you to use software (we will be using Excel and SPSS outside of class), and other questions will require you to understand concepts. Please note that not all questions will require you to use formulas or a series of steps to reach the answer. Some questions will just require you to understand a certain concept or idea. All of the questions will be my own questions (since there is no required textbook). The second part of each homework assignment will include three essay questions that focus on the current week’s topics. On the homework assignments, these essay questions will already be answered (but with certain words blanked out) and you will need to fill in the blanks from a list of choices. I will select three of the essay questions that you have answered on the homework assignments to be on the exam. On the exam, you will need to write out the entire answer (the essay questions on exams won’t be fill-in-the blank questions). It is fine to answer the questions in your own words as long as you cover the important ideas and facts.

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.
Each weekly homework assignment is due at the end of class (12:45 pm) on the Friday after it was assigned. Each weekly homework assignment will lose 50% of credit if it is submitted between 12:45 pm on the day it is due and 12:45 pm on the following class day. Assignments will not be accepted more than one week late. Each homework assignment will end with an extra credit survey that is worth up to 2% of extra credit on the next exam.

In-class assignments: At various times during each lecture, I will present multiple choice questions to test students’ retention and understanding of the material. Each question will be projected on the screen. Each time a question is presented, each student will answer the question individually (on paper) without talking to other students or looking at other students’ answers. After all students have answered the question, I will present the correct answer and explain why it is the correct answer. Each student will then write down the correct answer on his or her piece of paper. At this time, we can also discuss the question together as a class. In order for me to give immediate feedback on each question, I will need students to write down their initial answers as a code of up to 10 digits or letters (rather than as a, b, c, or d). In order to receive credit for their initial answers, students must write down the code for each of their answers. Students’ initial answers to the multiple choice questions won’t be graded for accuracy. In other words, students will receive credit for having attempted to choose the correct answer. However, the correct answers that I ask students to write down will be graded based on accuracy. Each in-class quiz is due at the end of class (12:45 pm) and can’t be submitted late.

Extra Credit: Each homework assignment will end with an extra credit survey that is worth up to 2% of extra credit on the upcoming exam. Also, up to two in-class assignments (either activities or quizzes) can be made up by doing extra credit assignments. If you are interested in completing extra credit assignments to make up for missed activities or quizzes, you will need to talk with me. The extra credit that you earn by completing these assignments will only count toward lost points for missed in-class activities or quizzes. Also, the amount of extra credit that you earn by completing these assignments will depend on how thoroughly and accurately they are completed.

**Grading Policy**

**Homework Assignments** (14 total)- 25 points (25% of your grade)
**In-class Activities** (13 total)- 25 points (25% of your grade)
**In-class Quizzes** (15 total)- 25 points (25% of your grade)
**Exam 1** – 12.5 points (12.5% of your grade)
**Exam 2** - 12.5 points (12.5% of your grade)

**Grading Scale:**
A- 90 – 100%
B – 80 – 89%
C – 70 – 79%
D – 60 – 69%
F – 59% and below
“All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at http://www.sjsu.edu/senate/docs/F13-1.pdf for more details.

Classroom Protocol

Class Sessions: Class sessions will include time spent reviewing previous homework assignments, activities, lectures, and in-class multiple choice questions. You will need to bring a calculator that can perform square roots to each class session.

Attendance: Attending class is important because the material being discussed will be covered on exams and assignments. Also, if you miss class on a certain day, you won’t be able to make up the in-class work that was completed on that day.

NOTE that University policy F69-24, “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Arrival times: Please come to class on time if it is at all possible. If you know that you will be late to class, please let me know ahead of time. Arriving late can also result in lost points on in-class activities or quizzes.

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 electronics during class. Do not spend class time finishing the 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, question and answer sessions, and activities. 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 except during our break time (unless it is absolutely necessary) because it is distracting to other students and can result in you losing points if you miss part of the activity or if you miss quiz questions.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf. More detailed information on a variety of related topics is available in the SJSU catalog, at http://info.sjsu.edu/web-dbgen/narr/catalog/rec-
In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

**Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at [http://info.sjsu.edu/static/catalog/policies.html](http://info.sjsu.edu/static/catalog/policies.html). Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/). The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at [http://www.sjsu.edu/aars/policies/latedrops/policy/](http://www.sjsu.edu/aars/policies/latedrops/policy/). Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/).

**Consent for Recording of Class and Public Sharing of Instructor Material**

[University Policy S12-7](http://www.sjsu.edu/senate/docs/S12-7.pdf), requires students to obtain instructor’s permission to record the course.

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
  - It is suggested that the greensheet include the instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

**Academic integrity**

Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) requires you to be honest in all your academic coursework. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The [Student Conduct and Ethical Development website](http://www.sjsu.edu/studentconduct/) is available at [http://www.sjsu.edu/studentconduct/](http://www.sjsu.edu/studentconduct/).
Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Integrity Policy S07-2 requires approval of instructors.

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of your disability.

In 2013, the Disability Resource Center changed its name to be known as the Accessible Education Center, to incorporate a philosophy of accessible education for students with disabilities. The new name change reflects the broad scope of attention and support to SJSU students with disabilities and the University's continued advocacy and commitment to increasing accessibility and inclusivity on campus.

**Student Technology Resources**

Computer labs for student use are available in the Academic Success Center at http://www.sjsu.edu/at/asc/ located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

**SJSU Peer Connections**

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory, alleviating procrastination, surviving
your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10th and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit Peer Connections website at http://peerconnections.sjsu.edu for more information.

SJSU Writing Center

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at http://www.sjsu.edu/writingcenter. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)

SJSU Counseling Services

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling Services website at http://www.sjsu.edu/counseling.
**San Jose State University**  
**Statistics 95: Elementary Statistics, Section 12, Fall Semester 2015, Course Schedule**

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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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
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<tbody>
<tr>
<td>1</td>
<td>F Aug 21</td>
<td>Introduction to Statistics, Data Values and Variables</td>
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| 2    | F Aug 28 | Activity  
Samples and Populations  
HW 1 is due               |
| 3    | F Sept 4  | Activity  
Descriptive Statistics Part 1  
HW 2 is due, HW 1 is late (50% credit) |
| 4    | F Sept 11 | Activity  
Descriptive Statistics Part 2  
HW 3 is due, HW 2 is late (50% credit) |
| 5    | F Sept 18 | Activity  
Frequency Distributions and Histograms  
z scores  
HW 4 is due, HW 3 is late (50% credit) |
| 6    | F Sept 25 | Activity  
Probability  
HW 5 is due, HW 4 is late (50%) credit       |
| 7    | F Oct 2   | Exam 1  
Sampling Distributions Part 1  
HW 6 is due, HW 5 is late (50% credit) |
| 8    | F Oct 9   | Activity  
Sampling Distributions Part 2  
HW 7 is due, HW 6 is late (50% credit) |
| 9    | F Oct 16  | Activity  
Confidence Intervals Part 1  
HW 8 is due, HW 7 is late (50% credit) |
| 10   | F Oct 23  | Activity  
Confidence Intervals Part 2  
HW 9 is due, HW 8 is late (50% credit) |
<table>
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<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
</tr>
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| 11   | F Oct 30 | Activity  
|      |        | Introduction to Hypothesis Testing  
|      |        | HW 10 is due, HW 9 is late (50% credit) |
| 12   | F Nov 6 | Activity  
|      |        | Binomial Test  
|      |        | Chi-square Test  
|      |        | HW 11 is due, HW 10 is late (50% credit) |
| 13   | F Nov 13 | Activity  
|      |        | Two Sample t test  
|      |        | HW 12 is due, HW 11 is late (50% credit) |
| 14   | F Nov 20 | Activity  
|      |        | One way ANOVA  
|      |        | HW 13 is due, HW 12 is late (50% credit) |
| 15   | F Dec 4  | Activity  
|      |        | Correlations and Scatterplots, Linear Regression  
|      |        | HW 14 is due, HW 13 is late (50% credit) |
|      |         | Final Exam is on Tuesday, December 15 at 9:45 AM |