San José State University
Department of Psychology
Stat 095, Elementary Statistics, Section 6, Fall 2016

Instructor: Karen LaRocque, Ph.D.

Office Location: Clark Hall 140

Email: karen.larocque@sjsu.edu

Office Hours: M 2:30 – 4:00 p.m.
(cubicle will vary; try AA, BB, CC, DD and check email)

Class Days/Time: M 6:00 – 8:45 p.m.

Classroom: DH 318

Prerequisites: Satisfaction of ELM requirements; 2 years of H.S. algebra.

GE/SJSU Studies Category: B4 (Mathematical Concepts) and CAN STAT 2

Course Website

The course website is located at https://sjsu.instructure.com

Log in to the course website using your MySJSU nine-digit ID and your current password.

Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on the course website. You are responsible for regularly checking the website. All course announcements will be made on that site.

The website has a discussion board. If you have a question that may be of general interest to the class, please post it to the discussion board so that others can benefit from the response. You are encouraged to answer your classmates’ questions when possible. Explaining material to another person is often one of the best ways to strengthen and retain that material.

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.
GE Requirements and Content

1. Stat 95 requires students to write a minimum of 500 words in a manner appropriate to quantitative analysis. The writing requirement will be met via SPSS assignments (described below) and written responses to exam questions. Writing will be assessed for grammar, clarity, conciseness, and coherence. For writing help, visit Peer Connections (http://peerconnections.sjsu.edu/) or the Writing Center (http://www.sjsu.edu/writingcenter/). I will also assist you with writing during office hours or via the course website.

2. Stat 95 will incorporate issues of diversity in many ways (e.g., in lectures, assignments)

3. In terms of Mathematical Concepts (GE Area B4), Stat 95 will focus on:
   a. Basic mathematical techniques for solving quantitative problems
   b. Elementary numerical computation
   c. The organization, classification, and representation of quantitative data in various forms, such as tables, graphs, rates, percentages, measures of central tendency and spread
   d. Applications of mathematics to everyday life
   e. Applications of mathematical concepts in statistical inference

GE/SJSU Studies Learning Outcomes (LO)

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

1. To use statistical methods to solve quantitative problems, including those presented in verbal form
2. To demonstrate the ability to use mathematics and statistics to solve real-life problems
3. To arrive at conclusions based on numerical and graphical data.

Required Texts/Readings

Textbook


Other equipment / material requirements

1. Calculator (must have square root and exponent buttons)
   NOTE: Laptops, tablets, and phones are not allowed as a calculator replacement
2. Computer, printer, internet and library access
3. Scantron (882) forms for the midterm and final
4. Access to Statistical Package for the Social Sciences (SPSS) software
Classroom Protocol

Classes

Classes will consist of lectures, in-class activities, question-and-answer periods, and short quizzes. Attendance is expected and is critical for success in this course. If you miss a class, you are responsible for getting the information covered. It is vital that you complete all scheduled assignments before each class. Always bring your calculator (and ideally your book) to class. Do not talk, read, text message, or interrupt your classmates’ learning during class. Arrive to class on time.

Electronics Policy

Turn off all pagers, cell phones, headphones, etc. before class. Using cell phones and other communication methods (e.g., text messaging) during class is not allowed. Do not use electronic devices to check email, visit websites, play games, or send messages. Doing so is a distraction to other students and the instructor and will result in expulsion from class. No electronic devices other than a calculator can be used during quizzes or exams.

Communications Protocol

I am available to answer questions outside of class (a) during office hours, (b) via postings to the discussion board on the course website, or (c) via email. In all cases, ask productive questions: include information about the steps that you have already taken toward finding the answer, what relevant information you have already understand or have already gathered, and/or specifically where you see a discrepancy in the material that you have. This will allow me to provide the most effective and efficient guidance possible.

Assignments and Grading Policy

Midterm Exam

You will have one Midterm Exam. The Midterm Exam will consist of multiple-choice, short answer, and computation questions. Please bring a Scantron form, pencils, and a calculator to the exam. All formulas will be provided to you.

A make-up Midterm Exam may only be given if you contact me at least two weeks in advance of the Midterm Exam date.

If your score on the Final Exam is higher than your score on the Midterm Exam, then the mean of your Final Exam score and your Midterm Exam Score will be used in place of your Midterm Exam score when calculating your course grade.

Final Exam

The Final Exam will have a similar format to the midterm, and will be cumulative.

A make-up Final Exam may only be given if you contact me at least two weeks in advance of the Final Exam date.
Quizzes

All classes will include a brief quiz consisting of questions similar to the questions on the homework assignment that is due that day. The quizzes may happen at any point during class. There are no make-up opportunities for missed quizzes. However, your two lowest scores will be dropped from your overall quiz grade and instead used as extra credit (see below). This means you can miss two quizzes without direct penalty.

Homework

Homework assignments will consist of problems from the end of each chapter in the textbook. The homework assignments are the primary method for you to practice your skills outside of lecture, prepare for the exams, and identify any areas that need additional strengthening. The textbook provides solutions to the odd-numbered questions, allowing you to check your work. Although the homework will not be graded directly, completing the homework is critical to learning the material and performing well on the quizzes and exams. As an added incentive, some questions on the quizzes may come directly from, or be very closely matched to, the questions on the homework assignments.

SPSS Assignments

You will complete two assignments that require the use of SPSS software. You will be able to work on these assignments on computers with SPSS installed in the lab in Clark Hall or on your own computers. You may work in teams of two students on these assignments, but must turn in individual reports, with answers in your own language. Include typewritten answers to the questions and printouts of your data and SPSS output (printouts from SPSS can be identical if you have worked in a team). Failure to meet these requirements will result in lost points. If you wish to use your own computer rather than the lab computers in Clark Hall, student educational licenses of SPSS can be purchased from Clark Hall at a significant discount from the normal academic price.

Extra Credit

For those students that regularly attend lecture and take more than the baseline number of quizzes, any additional quiz score(s) will be added as extra credit at the end of the semester, for up to two points on your overall course grade. For example, if you take all of the quizzes and your two lowest quiz scores are 60% (.60) and 70% (.70), then .60 + .70 = 1.30 points will be added to your overall course grade. If your two lowest quiz scores are 0% (missed quiz; .00) and 80% (.80), then .80 points will be added to your overall course grade. Occasionally quizzes or exams will include a challenging problem that can be completed for extra points on your score for that assessment. This is the only extra credit that will be given in the course.

Late work and make-up policies

Late policies and make-up policies for each type of assignment are described in the section for that assignment. Any exceptions to these policies require a note from a dean, a doctor, or the equivalent. This policy is in place to ensure that you are getting the assistance that you need with any serious illnesses or issues that arise during the semester.
Assessment of student learning outcomes

The learning objectives will be assessed via homework assignments, exam questions, and SPSS assignments. These assessment items will involve solving verbal and symbolic quantitative problems, including those that involve real-world situations. Students will be required to arrive at conclusions using numerical and graphical data. For example, students may view a scatterplot depicting data for the amount of caffeine consumed (X) and the quality of sleep (Y) and will determine whether a relationship exists between these variables, and, if so, the nature and strength of this relationship (LO 3). In addition, students will compute appropriate statistical measures that describe the relationship (LO 1) and then determine the practical implications of the observed relationship (LO 2, 3).

Grading

Your grade will result from the total number of points that you earn during the semester. Points will be assigned as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percent of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
<tr>
<td>SPSS Assignments</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>35%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>35%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Your letter grade will be assigned using the following guidelines:

<table>
<thead>
<tr>
<th>Percent</th>
<th>Letter Grade</th>
<th>Percent</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 98</td>
<td>A+</td>
<td>73</td>
<td>C (passing)</td>
</tr>
<tr>
<td>93</td>
<td>A</td>
<td>70</td>
<td>C-</td>
</tr>
<tr>
<td>90</td>
<td>A-</td>
<td>68</td>
<td>D+</td>
</tr>
<tr>
<td>88</td>
<td>B+</td>
<td>63</td>
<td>D</td>
</tr>
<tr>
<td>83</td>
<td>B</td>
<td>60</td>
<td>D-</td>
</tr>
<tr>
<td>80</td>
<td>B-</td>
<td>&lt; 60</td>
<td>F</td>
</tr>
<tr>
<td>78</td>
<td>C+</td>
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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](http://www.sjsu.edu/gup/syllabusinfo/).
**Tips to help you succeed in Stat 95**

1. Attend all classes, think deeply about the material during lecture, and take good, *meaningful* notes (do not just mindlessly copy verbatim); review and compile your notes soon after class
2. Do not fall behind on the material
3. Try doing some of the in-class and homework problems without looking at your notes
4. Complete the *learning checks* at the end of each section in the textbook
5. Start studying at least 2 weeks before each exam; form a study group with fellow students
6. Regularly review previous material to prepare for the Midterm Exam and Final Exam
7. Ask questions in class, in office hours, and on the course discussion board
8. Answer questions on the course discussion board; think about how you would explain concepts to a friend
9. Check the website and discussion board daily and read all postings
10. Make flashcards for important concepts and terms, but assess whether you are learning the *meaning* of the terms rather than memorizing a definition; generate examples of the terms
11. Ask for help when you need it; visit Peer Connections if you need tutoring
12. Complete assignments in small chunks each day rather than all at once
13. Try to apply statistics to your everyday life and interests - in such areas as sports, finance, business, childrearing, medicine, law, and entertainment.
### Stat 95 / Elementary Statistics Fall 2016 Course Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>Topic</th>
<th>Reading</th>
<th>Assignments</th>
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</thead>
<tbody>
<tr>
<td>Aug 29</td>
<td>Introduction to statistics</td>
<td>Ch. 1, Appendix A</td>
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<tr>
<td>Sep 5</td>
<td><strong>No lecture (Labor Day)</strong></td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Sep 12</td>
<td>Frequency distributions</td>
<td>Ch. 2</td>
<td></td>
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<tr>
<td>Sep 19</td>
<td>Central tendency</td>
<td>Ch. 3</td>
<td></td>
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<tr>
<td>Sep 26</td>
<td>Variability</td>
<td>Ch. 4</td>
<td></td>
</tr>
<tr>
<td>Oct 3</td>
<td>Standardized (z) scores</td>
<td>Ch. 5</td>
<td></td>
</tr>
<tr>
<td>Oct 10</td>
<td>Probability</td>
<td>Ch. 6</td>
<td></td>
</tr>
<tr>
<td>Oct 17</td>
<td>Probability and samples</td>
<td>Ch. 7</td>
<td>SPSS #1</td>
</tr>
<tr>
<td>Oct 24</td>
<td><strong>Midterm exam</strong></td>
<td>Ch. 1-7</td>
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<tr>
<td>Oct 31</td>
<td>Hypothesis testing</td>
<td>Ch. 8</td>
<td></td>
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<tr>
<td>Nov 7</td>
<td>The ( t ) statistic</td>
<td>Ch. 9</td>
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<tr>
<td>Nov 14</td>
<td>The ( t ) test</td>
<td>Ch. 10</td>
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<tr>
<td>Nov 21</td>
<td>Analysis of variance (ANOVA)</td>
<td>Ch. 12</td>
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<tr>
<td>Nov 28</td>
<td>Related samples ( t ) test and ANOVA</td>
<td>Ch. 11, 13.1, 13.2</td>
<td>SPSS #2</td>
</tr>
<tr>
<td>Dec 5</td>
<td>Correlation and regression</td>
<td>Ch. 14</td>
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<tr>
<td>Dec 12</td>
<td>Chi square</td>
<td>Ch. 15</td>
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<tr>
<td>Dec 19</td>
<td><strong>Final exam (5:15 PM)</strong></td>
<td>Ch. 1-15</td>
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</tbody>
</table>

### Note on the schedule

This course will follow this schedule to the extent possible. The timing and specific nature of topics and activities may change. You are responsible for being informed of any changes made to the class syllabus. Such changes will be clearly stated in class and will be posted on the class web site before the changes take effect.

### Note on SPSS

I will provide materials on using SPSS. Additionally, information on using SPSS is available online. Finally, I will offer help on using SPSS and interpreting SPSS results during office hours. You can obtain access to SPSS by: (1) buying the software from the Help Desk in Clark Hall (this may be free if you bring a USB key drive); or (2) visiting the King Library or Clark Hall, both of which have SPSS installed on some computers.