San José State University
Department of Psychology
Stat 095, Elementary Statistics, Section 1, Spring 2011

Instructor: Sean Laraway, Ph.D.
Office Location: DMH 311
Telephone: (408) 924-5679 (email me)
Email: sean.laraway@sjsu.edu
Office Hours: Friday, 1-5:00 p.m.
Class Days/Time: Monday & Wednesday, 3:00-4:15 p.m.
Classroom: DMH 353
Prerequisites: Satisfaction of ELM requirements; 2 years of H. S. algebra.
GE/SJSU Studies Category: B4 (Mathematical Concepts) and CAN STAT 2

Web Pages
Course web site: http://sjsu.desire2learn.com/

The best method of contacting me is via D2L email. Please allow 1-2 business days for a response. Email will be sent Monday-Thursday from 9 a.m.-5 p.m.
You are responsible for regularly checking the site for announcements, etc.

Course Description
Organization and classification of data, graphic representation, measures of central tendency and variability, percentiles, normal curve, standard scores, correlation and regression, and introduction to statistical inference; use of microcomputers for statistical calculations. The major goal is to enable the student to use numerical and graphical data in personal and professional judgments and in coping with public issues. We also will consider other topics, including experimental and non-experimental research designs, causation, effect size and strength of association measures, and confidence intervals.

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). Writing will be assessed for grammar, clarity, conciseness, and coherence. For writing help, visit the LARC in the SSA or the Writing Center in Clark Hall 126 (http://www.sjsu.edu/writingcenter/). I will also assist you with writing during office hours or via the course web site.

2. Stat 95 will incorporate issues of diversity in many ways (e.g., in lectures, films, 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. Scientific calculator (must have square root and exponent buttons)
2. Computer, printer, internet and library access
3. Scantron (882) forms
4. Access to Statistical Package for the Social Sciences (SPSS) software (v. 16.0 or later). This software is available for use in the Statistics Laboratory in DMH 350 or for purchase from the Help Desk in Clark Hall.

**Classroom Protocol**

**Classes**

Classes will comprise lectures, in-class activities, question-and-answer periods, guest presentations, and films. 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 readings and assignments before each class.
Always bring your text and calculator to class. Do not talk, read, text message, or eat during class. Please arrive to class on time.

**Electronics Policy**

Do not use cell phones, foreign language dictionaries, laptop computers, headphones, or any other electronic device during Exams. 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 web sites, play games, or send instant messages. Doing so is a distraction to other students and the instructor and will result in expulsion from class.

**Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. Information on add/drops are available at http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-324.html. Information about late drop is available at http://www.sjsu.edu/sac/advising/latedrops/policy/. Students should be aware of the current deadlines and penalties for adding and dropping classes.

**Assignments and Grading Policy**

**Exams**

You will have four exams. Exams will comprise multiple-choice, short answer, and computation questions. Please bring a Scantron form, pencils, and a calculator to each exam. All formulas will be provided to you.

**Homework and other assignments**

Additional assignments may involve in-class activities, take-home assignments, online quizzes, or other activities depending on time and other considerations. Expect to spend at least 4 hrs/week outside of class. You must be present to receive credit for in-class assignments. These assignments will be announced on the Blackboard site at least 1 day before class.

**SPSS Assignments**

You will complete four assignments that require the use of SPSS software. You can obtain these assignments and work on them in the Statistics Laboratory in DMH 350. You may work in teams of two students on these assignments. If you work in a team, submit only one completed assignment. Include typewritten answers to the questions and printouts of your data and SPSS output. Failure to meet these requirements will result in lost points. Sharing answers beyond your team will be considered academic dishonesty and will be dealt with as such.
Data Collection Project

You will complete a research project that will require you and your research team to design a study, collect data, analyze the data using SPSS, and write a concise and correct summary of the results. For each project, you and your team will submit an original, written research report of your project. These reports must be at least 500 words in length (typed, double-spaced, 12-point font, 1” margins) and should include at least one graph (software generated). Projects must use correct grammar, punctuation, and statistical style (as described in the Publication Manual of the American Psychological Association, 6th ed.; we will review this in class). Teams may consist of 2-3 students. To accommodate diversity of student interests and backgrounds, teams will choose their own specific research topics. Note that topics must be approved before data collection begins.

Extra Credit

There may be opportunities for extra credit throughout the semester. These opportunities will be announced in class and on the course web site.

Late work

All assignments must be submitted by the scheduled due date. Late assignments will lose 10% of total points for each weekday after this date. Assignments more than three weekdays late will not be accepted. PLEASE DO NOT EMAIL LATE ASSIGNMENTS.

Make-up Exams

Make-up exams will only be given if you contact me prior to the exam in question. If you miss an exam for any reason, you can replace this exam by taking the cumulative Make-up exam. Only one missing exam score can be replaced in this way. This exam will occur immediately following the Final Exam. You may not use your notes or text for this exam.

Assessment of student learning outcomes

The learning objectives will be assessed via homework assignments, exam questions, SPSS assignments, and a data collection project. 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>How Many?</th>
<th>Points per assignment</th>
<th>Total Points</th>
<th>Percent of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>TBA</td>
<td>TBA</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>SPSS</td>
<td>4</td>
<td>5</td>
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</tr>
<tr>
<td>Exams</td>
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<td>15</td>
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</tr>
<tr>
<td>Project</td>
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<td>10</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>100</td>
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Grading scale:

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<tr>
<th>Points earned</th>
<th>%</th>
<th>Letter Grade</th>
<th>Points earned</th>
<th>%</th>
<th>Letter Grade</th>
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</thead>
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<tr>
<td>≥ 98</td>
<td>≥ 98</td>
<td>A+</td>
<td>73</td>
<td>73</td>
<td>C (passing)</td>
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<tr>
<td>93</td>
<td>93</td>
<td>A</td>
<td>90</td>
<td>68</td>
<td>D+</td>
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<tr>
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<td>83</td>
<td>60</td>
<td>B-</td>
</tr>
<tr>
<td>80</td>
<td>80</td>
<td>B-</td>
<td>&lt; 60</td>
<td>&lt; 60</td>
<td>F</td>
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<tr>
<td>78</td>
<td>78</td>
<td>C+</td>
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University Policies

Academic integrity

Students should know that the University’s Academic Integrity Policy is available at http://www.sa.sjsu.edu/download/judicial_affairs/Academic_Integrity_Policy_S07-2.pdf.

Your own commitment to learning, as evidenced by your enrollment at San Jose State University and the University’s integrity policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The website for Student Conduct and Ethical Development is available at http://www.sa.sjsu.edu/judicial_affairs/index.html.

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 in your assignment any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Policy F06-1 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 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

**Student Technology Resources**

Computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. The Statistics Lab contains computers with SPSS (v. 16.0) installed. Computers are also available in the Martin Luther King Library.

**Learning Assistance Resource Center**

The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. It is designed to assist students in the development of their full academic potential and to motivate them to become self-directed learners. The center provides support services, such as skills assessment, individual or group tutorials, subject advising, learning assistance, summer academic preparation and basic skills development. [The LARC website is located at http://www.sjsu.edu/larc/](http://www.sjsu.edu/larc/).

**SJSU Writing Center**

The SJSU Writing Center (Room 126 in Clark Hall) is staffed by professional instructors and upper-division or graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. [The Writing Center website is located at http://www.sjsu.edu/writingcenter/about/staff/](http://www.sjsu.edu/writingcenter/about/staff/).

**Peer Mentor Center**

The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering “roadside assistance” to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop–in basis, no reservation required. The Peer Mentor Center website is located at [http://www.sjsu.edu/muse/peermentor/](http://www.sjsu.edu/muse/peermentor/).

**Tips to help you succeed in Stat 95**

1. Attend all classes and take good notes; Type and compile your notes soon after class
2. Start studying at least 2 weeks before each exam; form a study group with fellow students
3. Read assigned readings before each class; read each chapter at least twice
4. Practice working through the formulas with different data sets, such as sports statistics; complete the Problems at the end of each chapter.
5. Regularly review previous material to prepare for the Final Exam
6. Ask questions in class, in office hours, and on the course web site
7. Check the web site daily and read all postings
8. Complete the practice problems at the end of each chapter
9. Make flashcards for important concepts and terms
10. Visit the LARC if you need tutoring
11. Complete assignments as soon as the relevant information is presented in class
12. Try to apply statistics to your everyday life and interests - in such areas as sports, finance, business, childrearing, medicine, law, and entertainment.

**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.
### Tentative Course Schedule

<table>
<thead>
<tr>
<th>DATES</th>
<th>Topic</th>
<th>Reading</th>
<th>DUE (Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAN 26</td>
<td>•Introduction to STAT 95</td>
<td>•Syllabus</td>
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</tr>
<tr>
<td>JAN 31, FEB 2</td>
<td>•Introduction to Statistics</td>
<td>•Ch. 1, Appendix A</td>
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<tr>
<td>FEB 7, 9</td>
<td>•Frequency distributions</td>
<td>•Ch. 2</td>
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<tr>
<td>FEB 14, 16</td>
<td>•Central tendency</td>
<td>•Ch. 3</td>
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<tr>
<td>FEB 21, 23</td>
<td>•Variability</td>
<td>•Making and interpreting graphs</td>
<td>•SPSS #1 (FEB 23)</td>
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<td>•Distribution of sample means</td>
<td>•Ch. 4</td>
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<tr>
<td></td>
<td>•The logic of hypothesis testing</td>
<td>•Ch. 7</td>
<td>Project (MAR 23)</td>
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<tr>
<td>FEB 28</td>
<td>•EXAM 1</td>
<td>•Ch. 1-4</td>
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<tr>
<td>MAR 2, 7</td>
<td>•z scores &amp; the normal distribution</td>
<td>•Ch. 5</td>
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<tr>
<td>MAR 9, 14</td>
<td>•Probability</td>
<td>•Ch. 6</td>
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<tr>
<td>MAR 16, 21, 23</td>
<td>•Distribution of sample means</td>
<td>•Ch. 7</td>
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<tr>
<td></td>
<td>•The logic of hypothesis testing</td>
<td>•Ch. 8</td>
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<tr>
<td>MAR 28, 30</td>
<td>SPRING BREAK</td>
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<tr>
<td>APR 4</td>
<td>•EXAM 2</td>
<td>•Ch. 5-8</td>
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<tr>
<td>APR 6, 11</td>
<td>•Introduction to the t test</td>
<td>•Ch. 9</td>
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<td>APR 13, 18</td>
<td>•Independent-samples t test</td>
<td>•Ch. 10</td>
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<tr>
<td>APR 20, 25</td>
<td>•Repeated-measures t test</td>
<td>•Ch. 11</td>
<td>•SPSS #2 (APR 25)</td>
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<td></td>
<td>•Estimation</td>
<td>•Ch. 12</td>
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<tr>
<td>APR 27</td>
<td>•EXAM 3</td>
<td>•Ch. 9-12</td>
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<tr>
<td>MAY 2, 4, 9</td>
<td>•Introduction to ANOVA</td>
<td>•Ch. 13</td>
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<tr>
<td>MAY 11, 16</td>
<td>•Correlation and regression</td>
<td>•Ch. 15</td>
<td>•SPSS #3 (MAY 16)</td>
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<tr>
<td>MAY 23</td>
<td>•EXAM 4, 12:15-2:30</td>
<td>•Ch. 13, 15</td>
<td>•SPSS #4</td>
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</table>

### TOPICS OF SPSS ASSIGNMENTS

- **SPSS #1**: Frequency distributions, measures of central tendency and variability
- **SPSS #2**: Independent-samples t test
- **SPSS #3**: One-way ANOVA
- **SPSS #4**: Correlation

### Note on SPSS

You will find instructions on using SPSS in your textbook. You may also consult the Statistics Teaching Assistants in the Statistics Laboratory in DMH 350. 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; (2) visiting the Statistics Laboratory in DMH 350 during office hours; or (3) visiting the King Library or Clark Hall, both of which have SPSS installed on some computers.