San José State University
Department of Psychology
STAT 95: Elementary Statistics
Section 6, Fall 2013

Contact Information

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>Dr. David Schuster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office Location:</td>
<td>DMH 315</td>
</tr>
<tr>
<td>Telephone:</td>
<td>TBD. Temporary: 407-374-3283</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:david.schuster@sjsu.edu">david.schuster@sjsu.edu</a></td>
</tr>
<tr>
<td>Office Hours:</td>
<td>MW 3:00 - 4:15 pm or by appointment</td>
</tr>
<tr>
<td>Class Days/Time:</td>
<td>T 6:00 - 8:45 pm</td>
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<tr>
<td>Classroom:</td>
<td>DMH 353</td>
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<tr>
<td>Prerequisites</td>
<td>Satisfaction of ELM requirement and two years of high school algebra.</td>
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<tr>
<td>GE/SJSU Studies Category:</td>
<td>GE Area B4: Mathematical concepts</td>
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</table>

Course Description

This course will prepare you to use statistics within and outside of your field. Concepts presented in this course will be useful to critical thinkers in an increasingly data-focused society, and the techniques covered will provide a foundation for conducting real-world research. This course will help you answer the question: what do our observations tell us about the world?

From the catalog: 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.

Course Goals and Student Learning Objectives

Program Learning Outcomes

Upon successful completion of the requirements for a major in psychology, students will be able to:

PLO1 – Knowledge Base of Psychology – identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology

PLO2 – Research Methods in Psychology – design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations

PLO3 – Critical Thinking Skills in Psychology – use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes
PLO4 – Application of Psychology – apply psychological principles to individual, interpersonal, group, and societal issues

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

Course Goals

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 written projects (described below). Writing will be assessed for grammar, clarity, conciseness, and coherence.

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

3. In terms of Mathematical Concepts (Area B-4), 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

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 a written project (described below). Writing will be assessed for grammar, clarity, conciseness, and coherence. Applications of mathematical concepts in statistical inference

GE and Course Content Learning Outcomes

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

CLO1 – Use statistical methods to solve quantitative problems, including those presented in verbal form

CLO2 – Demonstrate the ability to use mathematics and statistics to solve real-life problems

CL03 – Arrive at conclusions based on numerical and graphical data.

The learning objectives will be assessed via in-class learning checks, problem sets, written assignments, and exam questions. 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 sleep (X) and visual memory (Y), and will determine whether a relationship exists between these variables. If so, they will describe 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).

Required Materials

Online Lectures

This is a flipped class. In a traditional course, you would spend class time listening to lectures and read outside of class. In this course, weekly lectures will be available online for you to watch whenever it is convenient. During the scheduled class time, you will be doing individual or group activities designed to practice the skills needed to do well on the quizzes, exams, and papers.
Instead of passively listening to your instructor, your instructor will be available to answer your individual or group questions and provide tutoring.

Canvas and MYSJSU Messaging

Use of the Canvas learning management system and e-mail are required. Supplementary course material will be made available on Canvas regularly. Communication regarding the course will be sent via the MySJSU messaging system or posted to Canvas. It is your responsibility to make sure you are enrolled in Canvas and receiving my e-mails.

Recommended Textbook

The textbook is recommended but not required. As a flipped course, most of your time outside of class will be spent watching online lectures or reviewing material. The textbook is intended as an additional reference.


A copy of the textbook will be available on reserve at the library. If you do not purchase the text, you can use it at the library.

Free, online introductory stats texts are another option. In addition to (or instead of) the recommended text, you may wish to use one of these free online textbooks:

Collaborative Statistics available at [http://cnx.org/content/col10522/latest/](http://cnx.org/content/col10522/latest/)

Textbook Purchase Options

Prices were obtained on July 31, 2013 and do not include tax or shipping charges. Prices are listed for your information and do not imply endorsement of any bookseller.

Spartan Bookstore: $201.35 (buy new), $151.00 (buy used), $120.80 (rent new), $80.55 (rent used)

Amazon.com: $150.99 (buy new), $107.23 (rent physical book)

Half.com: $64.70-$115.00 (new, prices vary), $45-$90 (used, prices vary)

Calculator

You absolutely need a dedicated scientific calculator for this course. I recommended that you purchase a Texas Instruments TI-36X Pro (shown in picture at the right; watch out because the other model names are confusingly similar). Some class activities will require the advanced features of this calculator, and I can provide the most help on its use. The TI-36X Pro provides many of the features found in graphing calculators but at a much lower price ($18-$23 at OfficeMax, Staples, and Wal-Mart; $34.98 at the Spartan Bookstore). Instead of this calculator, you may use any graphing calculator (although they are overkill). Other scientific calculators are acceptable, but you should be familiar with their functions or keep your calculator manual handy.


SPSS

Some assignments will require you to perform analysis using SPSS. For these assignments, I will provide step-by-step instructions.
For SPSS, it is intended that you use the computers in the Statistics Lab located in DMH 350. These computers are equipped with SPSS and graduate student teaching assistants can provide you with assistance on how to use the program. They will not do your assignments for you. See the Statistics Lab to determine its hours of operation for this semester.

Optionally, you can purchase a copy of SPSS for $15 at the University Help Desk on the first floor of Clark Hall. Be sure to get the newest SPSS license code for the operating system you own (as of Fall 2013 the latest version is 21).

**Grading Policy**

**How to be Successful in this Course**

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.

I hope that you will benefit from the additional flexibility, convenience, and efficiency that comes from the flipped class format. Note, however, that this format puts even more responsibility on you to prepare outside of class. Resist the temptation to skip the online lectures--it is equivalent to skipping class, and you will quickly fall behind.

It is **essential** that you allocate time for this course (at least 6 hours per week outside of class) and do the following **before every class meeting**:

- Check Canvas and your e-mail for course announcements and changes.
- Check this syllabus for due dates and upcoming assignments and plan accordingly.
- Review the assigned handout.
- Watch and participate in the assigned lecture video(s) and take notes as you would if you were in class.
- Look up unclear concepts in your textbook, if needed.
- Prepare for the in-class activity by completing any assignment listed at the end of the handout.
- Come to class to practice your skills and assess your knowledge.
- Ask your instructor, either in class, via e-mail, or during office hours, about anything that remains unclear.

**Grading Scale**

Grades are assigned based on your final point total (out of 1000 points for the semester):

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
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<tbody>
<tr>
<td>A+</td>
<td>&gt; 949</td>
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<tr>
<td>A</td>
<td>920 - 949</td>
</tr>
<tr>
<td>A-</td>
<td>900 - 919</td>
</tr>
<tr>
<td>B+</td>
<td>870 - 899</td>
</tr>
<tr>
<td>B</td>
<td>820 - 869</td>
</tr>
<tr>
<td>B-</td>
<td>800 - 819</td>
</tr>
<tr>
<td>C+</td>
<td>770 - 799</td>
</tr>
<tr>
<td>C</td>
<td>720 - 769</td>
</tr>
</tbody>
</table>

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Grades will be available to you on Canvas throughout the semester.

**Course Requirements and Assignments**

**Writing Assignments**
There will be one paper due this semester. The paper must be at least 500 words. A handout describing the content and grading of the paper will be posted to Canvas. The paper will be worth 200 points.

*The writing assignment is 20% of your final grade (200 points total).*

**In-Class Activities**
In the flipped class format, class time will be spent doing individual or group work. Most weeks, in-class activities will be assigned. I may ask you to turn in material generated during the activity, which will be due at the end of class and graded for completion. Incomplete or blatantly effortless work will not be accepted. **There are no make-ups or late submissions of in-class activities for any reason.** Instead, your lowest in-class activity grade will be replaced with your highest. Because the reason for missing them does not matter, it is important that you do everything you can to be present for all in-class activities, even if you don’t anticipate getting sick, having an emergency, etc.

Some of these activities require preparation before class (for example, you may be asked to bring a journal article to class or write an abstract for your paper). To complete the activity and receive the points for it, you must come to class with these preparation activities already completed. Any required preparation will be posted to Canvas.

*In-class activities are 20% of your final grade (200 points total).*

**Exams**
Three in-class exams will be worth 200 points each. These three exams will focus on applying the knowledge learned in the previous part of the course. The third exam is the final exam.

**Allowed Assistance**
You may bring and refer to your textbook and your notes on the quizzes and exams. You may also use a single dedicated scientific or graphing calculator, but no other electronic device is allowed. **All other assistance is prohibited.** For example, you cannot use computers, mobile phones, devices with keyboards, watches, tablets, or personal digital assistants (PDAs), even if they have a calculator function. If you will need to refer to material posted to Canvas, you will need to print it out ahead of time. If you have any questions about what material is allowed, please ask me. I take academic integrity very seriously (see “Academic Integrity,” below).
Make-Up Exams

Make-up exams will only be given in exceptional, unforeseen, and unavoidable circumstances with written documentation. Examples of exceptional circumstances are health emergencies, religious obligations, and military service. Work scheduling is not a sufficient reason for an exam make-up. If the otherwise valid reason for the make-up is known before the exam, the exam must be taken early. Make-up exams will be scheduled based on instructor availability.

Exams are 60% of your final grade (600 points total).

Extra Credit

Your grade should reflect your performance in the course over the entire semester. For this reason, there are only two opportunities for extra credit.

First, a quiz is available during the first week of class on Canvas. The quiz is about the syllabus. If you complete the quiz with a perfect score (you may take it multiple times), 20 points will be added to your final grade at the end of the semester.

Second, there may be a small number of extra credit questions at the end of some exams. These questions are designed to be challenging and reward true mastery of the course material.

Course Policies

Classroom Conduct

We will be working in groups frequently. The success of your group depends on respect for everyone involved. Specifically:

- Come to class having watched the lecture and with any preparation assignment completed. Showing up unprepared is unfair to the rest of your group and will waste your time as well. If you are unprepared, excuse yourself from your group to catch up on your own.
- Class will start on time; avoid arriving late. If you are late, enter quietly.
- Silence your electronics during class. Don’t text, check your phone, IM, or surf off-topic websites during class; if you have a legitimate need to do these things, leave the room quietly. If you do any of these things in class, you will be asked to leave.
- Stay on topic during group work.
- There are many of us working in a relatively small space, so be mindful of your volume.

Recording Lectures

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. Since the majority of class time will be spent in individual or group work, you may not make audio or video recordings in this course.

Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his 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.

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 section at 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 at

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http://www.sjsu.edu/provost/services/academic_calendars/. The Late Drop Policy is available at 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 at http://www.sjsu.edu/advising/.

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 at http://www.sjsu.edu/senate/docs/S07-2.pdf, requires 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 Student Conduct and Ethical Development website is available at 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) may result in a failing grade in the course 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 any material you have submitted in another class 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 their 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.

About Diversity

Consistent with the mission of San Jose State University, I welcome persons of differing backgrounds and experiences including but not limited to age, disability and health status, ethnicity and race, family structure, geographic region, language, religious/spiritual and secular beliefs, resident status, sex, sexual orientation and gender identity/expression, and socioeconomic status.

It is my goal to foster an environment in which diversity is recognized and embraced and every person is treated with dignity, respect, and justice. I hope that your academic experience in this course and at San Jose State University will provide the opportunity to gain knowledge and experiences necessary to thrive in a diverse, global environment.

Additional Resources

Library Liaison

Your library liaison can help with library research questions.
Technology Resources

For lectures and Canvas: 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.

For SPSS: See “SPSS” under “Required Materials,” above.

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.)

Counseling Services

Personal Counselors are available to help students identify and accomplish their academic and career goals, enhance personal development, meet life’s challenges, and improve interpersonal relationships.

Free short-term psychological counseling is available to individuals and couples who are matriculated students of San José State University. Students are eligible to receive six sessions per semester.

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 the Counseling Services website at http://www.sjsu.edu/counseling

Wellness Workshops

Attending to your wellness is critical to your success at SJSU. Early in your college career is the best time to take advantage of workshops and programs offered through the SJSU Student Health Center/Wellness & Health Promotion Department. Past workshops have included time management, community resources, study skills & note-taking, overcoming stress, test anxiety & test taking skills, goal setting, assertiveness & communication, improving self-esteem, graduate school, first-generation success, and more.

For more information and a schedule of workshops, visit the Workshop list at http://www.sjsu.edu/counseling/students/Workshops/
### Course Schedule

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Aug. 27</td>
<td>Introduction, Levels of measurement</td>
</tr>
<tr>
<td>2</td>
<td>Sept. 3</td>
<td>Frequency distributions, Histograms</td>
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<tr>
<td>3</td>
<td>Sept. 10</td>
<td>Central tendency</td>
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<tr>
<td>4</td>
<td>Sept. 17</td>
<td>Variability</td>
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<tr>
<td>5</td>
<td>Sept. 24</td>
<td><strong>Exam 1</strong></td>
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<td></td>
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<td>z-Scores</td>
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<tr>
<td>6</td>
<td>Oct. 1</td>
<td>The normal distribution</td>
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<tr>
<td>7</td>
<td>Oct. 8</td>
<td>Sampling distributions</td>
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<tr>
<td>8</td>
<td>Oct. 15</td>
<td>Hypothesis testing</td>
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<tr>
<td>9</td>
<td>Oct. 22</td>
<td><strong>Exam 2</strong></td>
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<tr>
<td></td>
<td></td>
<td>Correlation</td>
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<tr>
<td>10</td>
<td>Oct. 29</td>
<td>Regression</td>
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<tr>
<td>11</td>
<td>Nov. 5</td>
<td>T-Tests, Part 1</td>
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<tr>
<td></td>
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<td><strong>Writing assignment due at the start of class</strong></td>
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<tr>
<td>12</td>
<td>Nov. 12</td>
<td>T-Tests, Part 2</td>
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<tr>
<td>13</td>
<td>Nov. 19</td>
<td>ANOVA, Part 1</td>
</tr>
<tr>
<td>14</td>
<td>Nov. 26</td>
<td>ANOVA, Part 2</td>
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<tr>
<td>15</td>
<td>Dec. 3</td>
<td>Chi-Square</td>
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<tr>
<td>Final</td>
<td>Dec. 17</td>
<td><strong>Exam 3 (Final Exam) Tuesday, Dec. 17, 5:15 - 7:30 pm</strong></td>
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*This schedule is subject to change; modifications will be posted to Canvas.*