San José State University  
Department of Psychology  
STAT 115: Intermediate Statistics  
Section 2, Fall 2014

Instructor Contact Information

Instructor: Dave Schuster, Ph.D.

Office Location: DMH 315

Telephone: 408-924-5659

E-mail: david.schuster@sjsu.edu

Office Hours: Thursdays, 11:00am – noon or by appointment

Course Information

Classroom DMH 353

Class Days/Time: Tues. & Thurs., 3:00pm – 4:15pm

Prerequisites STAT 95 or equivalent

Course Format

This course uses elements from hybrid learning. Internet access is required, as described below.

Course Description

This course will prepare you to use statistics inside and beyond the research laboratory. 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 in the social sciences.

From the catalog: Statistical analysis at the intermediate level; chi-square, analysis of variance, correlation and regression, and topics in experimental design; use of microcomputers for statistical calculations. Intended for majors in education, nursing, personnel administration, psychology, social service and sociology, and psychology minors.

Course Goals and Student Learning Outcomes

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 Learning Outcomes

The major goal of this course is to provide you with a solid foundation in statistics as they are used in psychology and the social sciences. We will examine the logic and strategies of scientific research and learn how to use appropriate inferential statistics to make sense out of data. You will learn what statistics are available, when to use specific statistics, and how to interpret results.

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

- CLO1 - Understand the logic of statistical concepts
- CLO2 - Use appropriate statistical methods to solve quantitative problems and test hypotheses
- CLO3 - Understand the logic and strategies of scientific research designs
- CLO4 - Run statistical analyses using SPSS and interpret statistical information presented in SPSS output

The learning objectives will be assessed via written assignments and exam questions. The course learning objectives were adapted from those of Dr. Megumi Hosoda.

Required Materials

Reliable Access to the Internet

Having access to the Internet is your responsibility, so have backup plans in case you have problems with your primary computer. I cannot accept excuses about technology problems as valid, unless the entire University network or all of Canvas is offline.

Canvas and E-Mail: Communication, Grades, Quizzes, and Submissions

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 e-mail address linked to your MySJSU account or posted to Canvas. It is your responsibility to make sure you are enrolled in Canvas and receiving my e-mails.

How to get connected:

- You will need your SJSU ID to login. You should have received a message from the Registrar’s Office providing your SJSU ID.
- If you’ve never logged into Canvas, then you’ll first need to activate your SJSUOne account. Visit the following page to activate your account: https://sjsuone.sjsu.edu/LDAPAccount/Activate/Activate.aspx.
- Once activated, you can login to Canvas at https://sjsu.instructure.com/login
Answers about Canvas can be found at http://guides.instructure.com.

**Recommended Textbook**
There is no required textbook for this course. You may wish to consult a textbook for additional explanation of course topics. To help you do that, a stats textbook is on reserve at the library. Free, online textbooks are another option:

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

**Calculator**
You need a dedicated scientific or graphing calculator for this course. The best calculator for this course is the **TI-36X Pro**, which costs about $20 retail (available at OfficeMax, Staples, Wal-Mart, the Spartan bookstore, etc. Target does not sell it). It only comes in black, and it looks like this:

![TI-36X Pro](image)

If you already own a graphing calculator that is a TI-83, TI-84, or Nspire (many people already own one), that will work, too. This includes the:

- TI-83
- TI-83 Plus
- TI-83 Plus Silver Edition
- TI-84 Plus
- TI-84 Plus Silver Edition
- TI-84 Plus C Silver Edition
- TI-Nspire with Clickpad (Note: you need to purchase the Touchpad keypad for about $10 or order the free TI-84 Plus keypad)
- TI-Nspire with Touchpad
- TI-Nspire CAS with Touchpad (Nspire CAS with Clickpad is not supported)
- TI-Nspire CX
- TI-Nspire CX CAS

Other scientific or graphing calculators are acceptable but not recommended. Your calculator must have statistics functions, normal distribution functions, a random number generator, and square root and exponent buttons. I can provide the most help with the TI-36X Pro. If you decide to use a different calculator, keep your calculator manual handy. You may have to translate the procedures used in class for your calculator.


**SPSS**
Many assignments will require you to perform analysis outside of class using SPSS. For these assignments, I will provide step-by-step instructions.
To use 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.

**Flash Drive and Laptop (optional)**
A flash drive is helpful for taking your work between class and the statistics lab. You are welcome to bring a laptop computer to class, but a laptop is not required. Laptops can only be used during class for course-related work. Instead of bringing a laptop, you can print your SPSS outputs and bring the printouts to our class meetings.

**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 with 1 of the hours used for lecture), 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](http://www.sjsu.edu/senate/docs/S12-3.pdf).

It is essential that you make time every week to:

- 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 weekly handout.
- Complete the weekly quiz.
- Attend both class meetings.
- Complete the weekly in-class activity that corresponds with the lecture.
- Look up unclear concepts in your textbook and/or read the chapter, as needed.
- Ask questions in class or via e-mail.

**Grading Scale**
Grades will be available to you on Canvas throughout the semester. 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>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>966+ points</td>
</tr>
<tr>
<td>A</td>
<td>916 - 965</td>
</tr>
<tr>
<td>A-</td>
<td>896 - 915</td>
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<tr>
<td>B+</td>
<td>866 - 895</td>
</tr>
<tr>
<td>B</td>
<td>816 - 865</td>
</tr>
<tr>
<td>B-</td>
<td>796 - 815</td>
</tr>
</tbody>
</table>
Rounding is Included in the Grading Scale

The point totals reflect rounding up to the nearest percentage. For example, an A- would normally require 900 points (or 90% of 1000 points). With rounding, it only requires 896 points (or 89.6% of 1000 points). Because rounding is built in to the grading scale, your grade will be based on your final point total, rounded to the nearest whole point (so, 895.75 points is an A-, but 895.25 points is a B+). To be fair to everyone in the class, these are firm cutoffs; please do not ask for more rounding or unfair adjustments to your grade.

Grade Checks

You have my official permission to use the Canvas printout as a record of your current progress in the course. If you need a signed grade check, then please bring the grade check form with a printout of your current Canvas grade to my office hours. Grade checks are only available during office hours. Under Federal privacy laws, I cannot e-mail grades to you at any time.

Course Requirements and Assignments

In-Class Activities

In-class activities are 15% of your final grade (150 points total).

Twelve in-class activities are worth 15 points each, but the lowest two are dropped. This leaves 10 in-class activities worth 15 points each, for a total of 150 points. Typically, our second class meeting each week will be dedicated to completing an in-class activity. The in-class activities are designed to give you hands-on practice with the techniques discussed in the lecture and handouts. The written portion of the in-class activity is due at the end of the class meeting. You get full points for completing the activity unless it’s obvious that you did not try, or you turned it in incomplete. Blatantly effortless work gets a zero, nearly-but-not-quite complete work gets half credit, and incomplete work gets a zero. You must be present for the entire activity to receive credit. You are encouraged to work collaboratively, but everyone must do his or her own work; copying is not allowed.

Quizzes

Quizzes are 20% of your final grade (200 points total).

Eleven quizzes are worth 20 points each, but the lowest one is dropped. This leaves 10 quizzes worth 20 points each, for a total of 200 points. Most weeks, a quiz will be assigned within Canvas. You may use support materials (your textbook, web sites, and your notes) when you take your quiz, but you must take
your quiz alone without the help of any other live individual. You may not communicate with anyone except the instructor during a quiz. For example, you may refer to the web page of a stats textbook during a quiz, but you may not send instant messages to someone while you take a quiz.

In summary: books and notes are okay for quizzes. Live help is not okay for quizzes. Please let me know if you have questions about what is allowed during quizzes or exams.

**Exams**

*Exams are 65% of your final grade (650 points total).*

The first exam is worth 150 points. Subsequent exams are worth 166 or 167 points each. Each exam will focus on applying the knowledge learned in the previous part of the course. The fourth exam is the non-cumulative final exam.

You may bring and refer to your handouts 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, watches, or tablets, 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, ask me. I take academic integrity very seriously (see “Academic Integrity,” below).

**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 this syllabus. Your highest score on the quiz (you may take it multiple times) will count as up to 20 points of extra credit.

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.

**Make-Up and Extension Policy**

Make-ups or extensions for any graded assignment will only be given when:

- The assignment is not labeled, “no make-ups or extensions for any reason."
- The reason is exceptional, unforeseen, and unavoidable. Examples of exceptional circumstances are health emergencies, religious obligations, and military service. Work scheduling is not a sufficient reason for a make-up or extension.
- You can provide written documentation.
- You notify the instructor immediately after you become aware of the circumstances requiring a make-up or extension by filling out this form:

If the need for a make-up is known before the assignment due date, the assignment must be completed early. Make-up exams will be scheduled based on instructor availability. Do not e-mail your instructor with requests for a make-up or extension; instead, complete the request form.
Learning Environment
We will be working in groups frequently. The success of your group depends on respect for everyone involved. Specifically:

- Come to class having read the assigned material. 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.

Recording and Distributing Class Content
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, and authorized recording is for the general lecture time only. Group work may only be recorded with permission of all group members. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor. By enrolling in this course, you have not been given any rights to reproduce or distribute these recordings. Course material developed by the instructor remains the intellectual property of the instructor. You may not publically share or upload instructor-generated material for this course without written permission of the instructor.

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 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 José 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 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 assignments 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 on the assignment, a failing grade in the course, and/or 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.

About Diversity
Consistent with the mission of San José 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 José State University will provide the opportunity to gain knowledge and experiences necessary to thrive in a diverse, global environment.

Additional Resources at San José State University

**Library Liaison**
Your library liaison can help with library research questions.

Bernd Becker
Phone: (408) 808-2348
Email: bernd.becker@sjsu.edu

**Technology Resources**
Computer labs for SJSU student use are available in the:

- Statistics Lab, located in DMH 350
- Academic Success Center at http://www.sjsu.edu/asc/ located on the 1st floor of Clark Hall
- Associated Students Lab on the 2nd floor of the Student Union
- Martin Luther King Library

Check with each lab for hours and to see what software is available for your use.
**SJSU Peer Connections**

Peer Connections, a campus-wide resource for free 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](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](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](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](http://www.sjsu.edu/counseling/students/Workshops).
Course Schedule
The official course schedule is available on Canvas and should be considered part of this syllabus. The course schedule is subject to change; modifications will be posted to Canvas.

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
<th>Handout</th>
<th>Quiz</th>
<th>In-Class Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tue. Aug. 26 Thu. Aug. 28</td>
<td>Introduction, Measurement review, Intro to SPSS</td>
<td>1</td>
<td></td>
<td>Syllabus quiz</td>
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<tr>
<td>2</td>
<td>Tue. Sept. 2 Thu. Sept. 4</td>
<td>Visualizing data review</td>
<td>2</td>
<td>1</td>
<td>2</td>
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<tr>
<td>3</td>
<td>Tue. Sept. 9 Thu. Sept. 11</td>
<td>Descriptive statistics review</td>
<td>3</td>
<td>2</td>
<td>3</td>
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<tr>
<td>4</td>
<td>Tue. Sept. 16 Thu. Sept. 18</td>
<td><strong>Exam 1</strong> (Tue.) The normal distribution (Thu.)</td>
<td>Handouts 1-3 4</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Tue. Sept. 23 Thu. Sept. 25</td>
<td>Standardizing, Probability</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Tue. Sept. 30 Thu. Oct. 2</td>
<td>Sampling distributions</td>
<td>6</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Tue. Oct. 7 Thu. Oct. 9</td>
<td>Estimation, hypothesis testing, power, and errors</td>
<td>7</td>
<td>5</td>
<td>6</td>
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<tr>
<td>8</td>
<td>Tue. Oct. 14 Thu. Oct. 16</td>
<td>T-tests</td>
<td>8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>Tue. Oct. 21 Thu. Oct. 23</td>
<td>Correlation &amp; Regression (assessed by Exam 3)</td>
<td>9</td>
<td>7</td>
<td>8</td>
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<tr>
<td>10</td>
<td>Tue. Oct. 28 Thu. Oct. 30</td>
<td>Exam Review – No class meeting <strong>Exam 2</strong> (Thu.)</td>
<td>Handouts 4-8</td>
<td></td>
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<td>11</td>
<td>Tue. Nov. 4 Thu. Nov. 6</td>
<td>One-way ANOVA, Between-Subjects</td>
<td>10</td>
<td>8</td>
<td>9</td>
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<tr>
<td>12</td>
<td>Tue. Nov. 11 Thu. Nov. 13</td>
<td><strong>Veterans’ Day</strong> (Tue.) One-way ANOVA, continued</td>
<td>10</td>
<td></td>
<td>10</td>
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<tr>
<td>13</td>
<td>Tue. Nov. 18 Thu. Nov. 20</td>
<td>One-way ANOVA, Within-Subjects</td>
<td>11</td>
<td>9</td>
<td>11</td>
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<tr>
<td>14</td>
<td>Tue. Nov. 25 Thu. Nov. 27</td>
<td><strong>Exam 3</strong> (Tue.) <strong>Thanksgiving</strong> (Thurs.)</td>
<td>Handouts 9-10</td>
<td></td>
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<td>15</td>
<td>Tue. Dec. 2 Thu. Dec. 4</td>
<td>Two-way ANOVA</td>
<td>12</td>
<td>10</td>
<td>12</td>
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<td>16</td>
<td>Tue. Dec. 9</td>
<td>Chi-Square</td>
<td>13</td>
<td></td>
<td>11</td>
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<td>Final</td>
<td>Fri. Dec. 12</td>
<td><strong>Exam 4</strong> 2:45 – 5:00 pm</td>
<td>Handouts 11-12</td>
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