San José State University  
Psychology Department  
44075, Elementary Statistics, Section 02, FALL 2019

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<tr>
<th>Instructor:</th>
<th>Steven Macramalla</th>
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<td>Office Location:</td>
<td>DMH 230</td>
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<tr>
<td>Telephone:</td>
<td>(831) 234-8451</td>
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<td>Email:</td>
<td><a href="mailto:steven.macramalla@sjsu.edu">steven.macramalla@sjsu.edu</a></td>
</tr>
<tr>
<td>Office Hours:</td>
<td>MonWed 1:45PM-2:45PM</td>
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<tr>
<td>Class Days/Time:</td>
<td>MoWe 10:30AM - 11:45AM</td>
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<tr>
<td>Classroom:</td>
<td>Dudley Moorhead Hall 150</td>
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Faculty Web Page and MYSJSU Messaging (Optional)

Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on my faculty web page at http://www.sjsu.edu/people/firstname.lastname or accessible through the Quick Links>Faculty Web Page links on the SJSU home page. You are responsible for regularly checking with the messaging system through MySJSU (or other communication system as indicated by the instructor).

Prerequisites

"By California State University policy, passage of the Entry Level Mathematics (ELM) is prerequisite to enrollment in this class. Failure to satisfy this prerequisite will result in retroactive assignment of a "U" grade in the course. Information on the ELM is printed in the Testing Section in the front of the Schedule of Classes." Intermediate College Algebra is a prerequisite for this course.

Course Description

This course is designed to provide an overview of elementary statistical procedures used by researchers in the behavioral and social sciences and to prepare students for more advanced statistical techniques presented in other courses.

Course Goals and Student Learning Objectives

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

1 CLO1 – Use statistical methods to solve quantitative problems, including those presented in verbal form
2 CLO2 – Demonstrate the ability to use mathematics and statistics to solve real-life problems
3 CLO3 – Arrive at conclusions based on numerical and graphical data.

**Goal 1. Knowledge Base of Statistics:** Students will demonstrate familiarity with the major concepts in statistics.

**Goal 2. Application of Statistical Concepts:** Students will be able to solve mathematical problems including those presented in verbal form.

**Goal 3. Critical Thinking Skills:** Students will develop the ability to arrive at descriptive and inferential conclusions on the basis of mathematical data presented through such forms as statistics, tables, graphs, and computer outputs.

**Goal 5. Values in Psychology:** Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

Learning Objective 1 (GELO1): Use mathematical methods to solve quantitative problems, including those presented in verbal form.

Learning Objective 2 (GELO2): Demonstrate the ability to use mathematics to solve real life problems.

Learning Objective 3 (GELO3): Arrive at conclusions based on numerical and graphical data.

Learning Objective 4 (Specific to Area B4): Use basic mathematical techniques for solving quantitative problems and elementary numerical calculation

Learning Objective 5 (Specific to Area B4): Understand 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): Apply mathematics to everyday life

Learning Objective 7 (Specific to Area B4): Apply mathematical concepts to statistical inference

**Required Texts/Readings**

**Essentials of Statistics for the Behavioral Science** by Nolan & Heinzen  


Textbooks in stats are not an option, you will be using them for assignments and you will require photocopies of the appendices for the exams. SPSS (Statistical Package for the Social Sciences) software and other software are available for download through the University MySJSU, required to do the Assignments. There will be assignments involving Excel (or equivalent) and SPSS. If you are interested in research as a career, it will be in your interest to have access to these programs.
Classroom Protocol

All students are expected to display professionalism and respect for others. This explicitly includes arriving on time, participating in class, engaging in civil dialog, and paying attention to classroom activities. Please turn off your cell phones and refrain from activities that disrupt the class. If you have to arrive late, seat yourself quietly and near the door. If you have to leave early, be sure to let me know in advance and sit by the door.

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 calendar web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latdrops/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/.

Assignments and Grading Policy

Exams x 3 …………. …………………50%
Mini Assignments x 12………………..30%
Final Project………………………..20%

Assignments

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 exercises in Assignments #1, 2, and 3.

- Submission: Assignments due dates are on canvas and the syllabus.
- Complete assignments are to be submitted on Canvas. Type your answers.
- Where work is done by hand use a camera phone to photograph and past the photo into the homework.
- You MUST provide the question followed by the answer, in the sequence provided by the Assignment.

- They will be graded on a Hybrid pass/No Pass with scores of 0 – 10 – 20.
  - 20 = ALL WORK DONE (most people get this)
  - 10 = ONE exercise is INCOMPLETE. (a few get this)
• 0 = MORE THAN ONE EXERCISE IS INCOMPLETE with obviously poor effort. (one or two usually get this)

• Due Dates: See Canvas or below for dates.
• Late homework will be penalized for tardiness, 5% a day, automatically by Canvas.
• You may work in groups but outright copying will not be tolerated. The homework is designed to assist you in understanding the material and providing much needed practical experience in grasping otherwise abstract concepts.

Exams
• There will be two midterms and one final in-class exam.
• The exams are not cumulative, but the concepts build over time.
• The exams will require a calculator, scantron (for in-class exams), cheat sheet of formulas, and photocopies of the tables in Appendix B.
  o Do not assume because you have a cheat sheet that you will not need to study. The cheat sheet will help with remembering formulas, but it will not help you with understand how to use the formulas.
• The exams will be a combination of multiple choice answers and problem which will require you to show your work.
  o The exercises assigned each week will be a good guide expected and what concepts need to be understood.
  o There are extra problems at the end of each chapter with answers in the book for more practice!

The FINAL EXAM is the last LAST DAY OF INSTRUCTION. We will go over the final exam so you can know how you did. The exam day used for Group Project Poster Sessions, bring food and snacks to make this a little more fun. I will provide feedback. You are required to stay for an hour.

Group Project

You will join a Group on Canvas, groups no larger than 3. You will work together as a research team. Select your research topic, and conduct all six steps of hypothesis testing, deciding which test is appropriate, collecting your own data, stating your decision and the limitations of your findings.

The final submission will include a Power Point presentation or PDF format of all the components, as though you were presenting these slides for a conference or talk.

See instruction in the Instructions for Groups Project sheet.

Course Grading Scale (% of Total Points):
A+ 96-100%  B+ 86-89%  C+ 76-79%  D+ 66-69%  F<60%
University Policies

Academic integrity

Students should know that the University’s Academic Integrity Policy is available at http://sa.sjsu.edu/judicial_affairs/faculty_and_staff/academic_integrity/index.html. 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 Student Conduct and Ethical Development website 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 Disability Resource Center (DRC) at http://www.drc.sjsu.edu/ to establish a record of their disability.

Learning Assistance Resource Center (Optional)

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/.
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<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
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| 1    | Aug 21   | Welcome & Logistics Introduction: Types of Stats, Data, Variables Chapter 1  
                   Lady Tasting Tea. Chapter 1 |
| 2    | Aug 26-28| Frequency Distributions & How to Lie with Graphs & Central Tendency and Variability  
                   **BRING BAG OF CHOCOLATE CHIP COOKIES**  
                   Chapter 2 & Chapter 4 (Chapter 3 is nice, too)  
                   Lady Tasting Tea Chapter 2 |
| 3    | Sept 2-4 | Standardization, Z-scores, & Probability, Randomization  
                   Ch. 5 & 6;  Lady Tasting Tea Chapter 3 & 4 & 5  
                   DUE: Mini #1 Data Types, Descriptive Statistics  
                   **BRING 2 DICE** |
| 4    | Sept 9-11| Central Limit Theorem  
                   Ch. 5 & 6 Con’t  
                   DUE Mini #2 Variability, Z-scores, Probability |
| 5    | Sept 16-18| Hypothesis Testing with Z-scores Null & Research Hypotheses, Type I & II Errors,  
                   DUE Mini #3 Central Limit Theorem, Z-Stats, Hypothesis Testing  
                   Chapter 7 |
| 6    | Sept 23-25| MONDAY EXAM 1  
                   DUE Mini #4 Hypothesis testing  
                   Exam Review |
| 7    | Sept 30 – Oct 2| Confidence Intervals, Effect Size & Power  
                   Chapter 8 |
| 8    | Oct 7-9  | Single Sample t-Tests  
                   Chapter 9  
                   DUE: Mini #5 Hypothesis Testing & Confidence Intervals, Effect Sizes, Power |
| 9    | Oct 14-16| Paired Sample t-Tests Con’t  
                   Chapter 9  
                   DUE: Mini #6 Single Sample t Tests |
| 10   | Oct 21-23| Independent t-Test  
                   Chapter 10  
                   DUE: Mini #7 Paired Sample t-Test |
| 11   | Oct 28-30| EXAM 2  
                   Exam Review  
                   DUE Exam Day: Mini #8 Independent t-Tests |
| 12   | Nov 4-6  | Correlation & Regression  
                   Chapter 13 & 14 |
| 13   | Nov 11-13| ANOVA One-Way  
                   Chapter 11  
                   DUE: Mini #9 Correlation & Regression |
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<td>14</td>
<td>Nov 18-20</td>
<td>ANOVA Two-Way</td>
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<td>Chapter 12</td>
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<td>DUE: Mini #10 One-Way Anova</td>
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<td>15</td>
<td>Nov 25-27</td>
<td>Chi-Square</td>
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<td>16</td>
<td>Dec 2-4</td>
<td>Chi-Square</td>
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<td>17</td>
<td>Dec 9</td>
<td>FINAL EXAM</td>
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<td>GROUP PRESENTATIONS  Thursday, December 13</td>
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