San José State University  
Psychology Department  
22366, Elementary Statistics, Section 04, Spring 2019

Instructor: Steven Macramalla
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Office Hours: MonWed 12:00-1:30PM
Class Days/Time: MoWe 1:30PM - 2:45PM
Classroom: Dudley Moorhead Hall 355

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/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/.

Assignments and Grading Policy

Exams x 3 .................. .................45%
Mini Assignments x 12...............20%
Quiz..........................20%
Final Project..................15%

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 #1-12.

- 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. (minority usually get this)

- Due Dates: See Canvas or below for dates.
- Late homework will be penalized for tardiness, 5% per day. Exceptions made for emergencies with valid proof.
- 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 exam in-class. The Exam Day will be used for the GROUP PROJECT.
- 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.
  - 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 multiple choice, including a word problem which you will be required to show your work and supply answers to the multiple choice questions for that problem.
  - The exercises assigned each week will be a good guide of what concepts need to be understood.

There are extra problems at the end of each chapter with answers in the book for more practice!

The final exam is FINAL EXAM is our LAST DAY OF LECTURE, MONDAY MAY 13TH, there will be NO opportunity to take the exam at another time.

Group Project

You will join IN PAIRS, groups of three must get my permission.
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+  95-100%  B+ 79-82%  C+ 67-69%  D+ 57-59%  F<50%
A  90-94%  B  75-78%  C  63-66%  D  52-56%
A-  83-89%  B-  70-74%  C-  60-62%  D-  50-51%

University Policies

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 Accessible Education Center (AEC) to establish a record of their disability.

Student Technology Resources

Computer labs and other resources for student use are available in:

- Associated Students Print & Technology Center at http://as.sjsu.edu/asptc/index.jsp on the Student Union (East Wing 2nd floor Suite 2600)
- The Spartan Floor at the King Library at http://library.sjsu.edu/about/spartan-floor
- Student Computing Services at http://library.sjsu.edu/student-computing-services/student-computing-services-center
- Computers at the Martin Luther King Library for public at large at https://www.sjpl.org/wireless
- Additional computer labs may be available in your department/college

A wide variety of audio-visual equipment is available for student checkout from Collaboration & Academic Technology Services located in IRC Building. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

SJSU Peer Connections

Peer Connections’ free tutoring and mentoring is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. Peer Connections tutors are trained to provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small group and individual tutoring are available. Peer Connections mentors are trained to provide support and resources in navigating the college experience. This support includes assistance in learning strategies and techniques on how to be a successful student. Peer Connections has a learning commons, desktop computers, and
success workshops on a wide variety of topics. For more information on services, hours, locations, or a list of current workshops, please 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.)

SJSU Counseling and Psychological Services

The SJSU Counseling and Psychological Services is located on the corner of 7th Street and San Carlos in the new Student Wellness Center, Room 300B. Professional psychologists, social workers, and counselors are available to provide confidential 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 Counseling and Psychological Services website at http://www.sjsu.edu/counseling
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<th>Topics, Readings, Assignments, Deadlines</th>
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| 1    | Jan 28-30 | Welcome & Logistics Introduction: Types of Variable  
Chapter 1  
**Wed. BRING BAG OF CHOCOLATE CHIP COOKIES** |
| 2    | Feb 4-6  | Plots & Central Tendencies  
Chapter 2 & Chapter 4 (Chapter 3 is nice, too)  
DUE: Quiz 1 & Mini #1 Types of Variables  
**BRING 2 DICE** |
| 3    | Feb 11-13 | Variability, Z-scores & Percentages  
Ch. 5 & 6  
DUE Quiz 2 & Mini Stats Assignment #2 Plots, Cent Tend |
| 4    | Feb 18-20 | Probability, Random Sampling, Central Limit Theorem & Z-statistics  
Ch. 5 & 6 Con’t  
DUE Quiz 3 & Mini #3 Variability, Z-scores, Percentages |
| 5    | Feb 25-27 | Hypothesis Testing  
Quiz 4 & Mini #4 Probability, Random Sampling, Central Limit  
Theorem & Z-statistics |
| 6    | March 4-6 | MONDAY EXAM 1  
DUE Exam Day: Quiz 5 & Mini #5 Hypothesis Testing  
Chapter 7  
Exam Review |
| 7    | March 11-13 | Confidence Intervals, Effect Size & Power & Signal Detection Theory  
Chapter 8 |
| 8    | March 18-20 | Single Sample t-Tests  
Chapter 9  
Paired Sample t-Tests Con’t  
Chapter 9  
DUE: Quiz 6 & Mini #6 Confidence Intervals, Effect Sizes, Power  
& Signal Detection Theory |
| 9    | March 25-27 | Independent t-Test  
Chapter 10  
DUE: Quiz 7 & Mini #7 Single Sample t Tests  
DUE: Quiz 8 & Mini #8 Paired Sample t-Test  
DUE Exam Day: Quiz 9 & Mini #9 Independent t-Tests (end of  
week, so you can get the answers and study during Spring Break) |
| 10   | April 1-3  | SPRING BREAK & CESAR CHAVEZ DAY |
| 11   | April 8-10 | EXAM 2  
Exam Review |
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| 12   | April 15-17  | Correlation & Regression  
Chapter 13 & 14                                                                                     |
| 13   | April 22-24  | ANOVA One-Way  
Chapter 11  
DUE: Mini #10 Correlation & Regression                                                                       |
| 14   | April 29-     | ANOVA Two-Way  
Chapter 12  
DUE: Mini #11 One-Way Anova                                                                                |
|      | May 1        |                                                                                                        |
| 15   | May 6-8      | Chi-Square  
Chapter 15  
DUE: Quiz 12 & Mini #12 Chi-Square & 2-Way ANOVA  
(Later in week so you can get the answers and study over the weekend)                                  |
| 16   | May 13       | FINAL EXAM                                                                                              |
| Final Exam |               | GROUP PROJECTS PRESENTED & REVIEW EXAM  
BRING SNACKS & DRINKS                                                                                   |
|      |              | Thursday, May 16   1215-1430                                                                             |