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Office: DMH 224
Office Hours: Mondays 12-1 and Wednesdays 3-4 p.m.

Course Description and Objectives

In this course, we will begin with a review of univariate descriptive statistics and then shift to making statistical inferences. We will continue the practice of statistical inference with a focus on bivariate relationships and conclude with an exploration of multivariate modeling. Throughout the course we will emphasize the logic underlying statistical analyses and their application to sociological research. The goals of this course are to familiarize graduate students with the foundations of statistical analyses applied to social scientific research as well as the statistical software that performs these analyses. This course is designed to prepare students for advanced statistical techniques most commonly practiced by social science researchers broadly. Finally, this course should allow students the opportunity to link statistical analysis to a literature review.

- summarize data using measures of central tendency and dispersion
- select appropriate statistical methods for analyzing combinations of two nominal, ordinal, and/or interval variables
- conduct and describe univariate, bivariate and multivariate statistical analyses using Stata, including the following:
  - diagnose fit of linear and nonlinear regression models
  - conduct ordinary least squares (OLS) regression analyses in Stata
  - explain and implement the concept of statistical control
  - perform appropriate diagnostic tests for OLS analyses
  - be familiar with the logic underlying logistic regression
  - be able to interpret odds-ratios
- write Stata command (do) files and interpret Stata output for descriptive statistics and graphs, comparing two means/proportions, ANOVA, and OLS regression
- conduct a small-scale independent research project with an adequate literature review and an appropriate research design and strategy.
Course Materials

Textbooks


The following text is recommended for the latter third of the course, brief selections from this text will be made available online:


Software

A central component of this course will be the use of the statistical software package Stata to analyze quantitative data. Our class will have access to a lab in which all of the computers are equipped with Stata.

You may also purchase a copy of Stata for your PC or Mac. If you wish to purchase Stata, place the order on-line at http://www.stata.com. There are a variety of sizes and licensing agreements available. Stata/SE will accommodate large datasets such as the General Social Survey, which we will use throughout the course.

Stata Support

The following online resources may be helpful for using Stata:

http://www.ats.ucla.edu/stat/stata/

http://www.princeton.edu/~otorres/Stata/

Tools

Calculator with a square root function and a stapler
Classroom Protocol:

- Do the required reading **before class** and as needed.
- You must follow the student code of conduct.
- You must do your own work on the assignments, projects and exams.
- Active participation in class discussion and classroom activities is expected. Please do not make a habit of: arriving to class late, emailing, talking or text messaging during class and/or otherwise making it known that you are not engaged.
- Attendance is mandatory. Please let me know as soon as possible, preferably before class, if you will be unable to attend, particularly for excused absences. Excused absences are allowed only with official documentation (doctor’s note, police report, funeral notice, etc.) provided immediately upon your return. Absence is not an acceptable excuse for ignorance of the course content, assignments, or exam dates. Emails with any variation of the following question will be frowned upon: “Did I miss anything important?”
- Email Correspondence: Please provide your name and course name in each email. Emails without this information will not be responded to. I WILL NOT send you any information about your grade or performance in this class through email. If you want to know how you are doing, please attend office hours. I will try to respond to emails as soon as possible, but have a 24-hour email response policy, effective 9-5 p.m., Monday through Thursday. This means that if you email me Thursday night at 4 p.m. you may not get a response until Monday at 4 p.m.
- There will be several homework assignments, in-class exercises and one major project throughout the semester.

Course Requirements

In-Class and Lab Exercises

In-class exercises will serve as low-stakes opportunities to practice implementing statistical techniques. They will be evaluated on a complete/not complete basis. You must be present in order to participate. In order to benefit the most from these exercises you should complete the assigned Agresti and Finlay (A&F on the schedule) readings prior to the class meetings and bring your scientific calculator and A&F text.

Lab exercises will require you to analyze data using statistical software. Labs must be formatted in a Word document.

Homework Assignments*

Homework assignments will be an extension of material introduced in class. They will require you to implement statistical techniques and concepts with or without the use of software (specified in the assignment). Homework must be submitted at the beginning of class on the day they are due.
**Presentation and Paper**

During the latter part of the semester, you will conduct a literature review to link to your statistical analysis. You will present your findings to the class. Details of this assignment will be made available at an appropriate time during the semester.

**Final Exam**

The final will include both conceptual and applied material from the course. As part of the exam students will evaluate their contributions and progress throughout the course. Final exams must be submitted from 2:45-3pm on Monday, May 19.

**Assignments and Grading Policy**

A total of 350 points is possible for this course:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Presentation and Paper</td>
<td>75 pts.</td>
</tr>
<tr>
<td>In-Class exercises</td>
<td>75 pts.</td>
</tr>
<tr>
<td>5 Homework Assignments</td>
<td>100 pts.</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100 pts.</td>
</tr>
<tr>
<td>TOTAL</td>
<td>350 pts.</td>
</tr>
</tbody>
</table>

Grades will be calculated as follows:

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>315 - 350</td>
<td>A (+ or -)</td>
</tr>
<tr>
<td>280 - 314</td>
<td>B (+ or -)</td>
</tr>
<tr>
<td>245 - 279</td>
<td>C (+ or -)</td>
</tr>
<tr>
<td>209 - 244</td>
<td>D (+ or -)</td>
</tr>
<tr>
<td>000 - 208</td>
<td>F</td>
</tr>
</tbody>
</table>

**University Policies**

**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 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/.
Recording of Class and Public Sharing of Instructor Material

- Recording lectures is **not** allowed in this course.
- Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions.

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](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](http://www.sjsu.edu/studentconduct/) 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) 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.

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](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)](http://www.sjsu.edu/aec) at http://www.sjsu.edu/aec to establish a record of their disability. If you think you might or know you will require alternative testing arrangements, you must register with the AEC at the beginning of the semester.

Student Technology Resources

Computer labs for student use are available in the [Academic Success Center](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.

SJU Peer Connections

Peer Connections, a campus-wide resource for mentoring and tutoring, offers 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. 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](http://peerconnections.sjsu.edu) at http://peerconnections.sjsu.edu for more information.
SOCI: 200B Methods of Social Research II Course Schedule

Note that we may adjust the course schedule as the semester progresses. A current syllabus will always be available under the course “Files” on Canvas. All readings should be completed prior to the class meeting for which they are assigned. There will be no assignment extensions baring exceptional and documented circumstances.

Week 1: January 27th: Introduction

January 29th: Sampling, and Measurement

Reading: A&F Chapters 1 and 2
Reading: Acock Chapters 1 and 4

Week 2: Descriptive Statistics – Central Tendency and Dispersion
February 3rd & 5th

Reading: A&F Chapter 3
Reading: Acock Chapter 5

Week 3: Probability and Sampling Distributions
February 10th & 12th

Reading: A&F Chapter 4
Reading: Acock Chapter 3

Week 4: Statistical Inference – Point Estimation and Confidence Intervals
February 17th & 19th

Reading: A&F Chapters 5 and 6
Reading: Acock Chapter 7.1 – 7.6

HW #1 Due Wednesday 2/19

Week 5: Comparing Two Groups, Means
February 24th

TBA: Class will have an alternate format

February 26th

Reading: A&F Chapter 7
Week 6: Comparing Two Proportions  
March 3rd  
Reading: Acock Chapter 7.7 – 7.11  

HW #2 Due Monday 3/3

March 5th  
Association between Categorical Variables  
Reading: A&F Chapter 8  
Reading: Acock Chapter 6

Week 7: Cont. Association between Categorical Variables  
March 10th  
Reading: A&F Chapter 8  
Reading: Acock Chapter 6

March 12th  
Bivariate Regression and Correlation  
Reading: A&F Chapter 9  
Reading: Acock Chapter 8

Week 8: Regression and Correlation cont.  
March 17th & 19th  
Reading: A&F Chapter 10  
Reading: Acock Chapter 10.1 – 10.4

Week 9:  
March 24th & 26th  
SPRING RECESS

Week 10:  
March 31st  
Cesar Chavez Day - Campus Closed

April 2nd  
Multivariate Regression  
Reading: A&F Chapter 11  
Reading: Acock Chapter 10.5 – 10.13

HW #3 Due Wednesday 4/2
Week 11: Multivariate Regression Modeling and Diagnostic Statistics  
April 7th and 9th  
Reading: A&F Chapter 14  
“What Can Go Wrong With Multiple Regression?” pp. 51-68 (Canvas)  
“What are the Assumptions of Multiple Regression?” pp. 119-134 (Canvas)

Week 12: Comparing Multiple Means, ANOVA  
April 14th and 16th  
Reading: A&F Chapter 12  
Reading: Acock Chapter 9

Week 13: Interpreting Quantitative Analyses in the Literature  
April 21st and 23rd  

HW #4 Due Monday 4/21

Week 14: Workshop  
April 28th and 30th  
“Choosing How to Present Statistical Test Results,” pp. 220-4 & 229-40 (Canvas)  
“Creating Effective Charts,” pp. 156-159 (Canvas)  
“Appendix B: Translating Statistical Output into Table and Text,” pp. 417-421 (Canvas)

Week 15: Presentations  
May 5th and 7th

Week 16: Presentations cont.  
May 12th  
HW #5 Due 5/12

Final Exam: Due Monday May 19th 2:45-3:00 p.m.