

**Quantitative Methods
Anthropology Department; SJSU**

ANTH 235 Section 1 (34359)
Tuesdays 1800 – 2045

Spring 2007
CL 204

Dr. Elizabeth Weiss

Office: CL 404R

Office Hours: T 1330-1445; 1630-1730

W 1330-1500

R 1330-1445

(Or available by appointment via prior arrangement)

If you have any concerns about your class performance or comprehension, please come by my office during office hours or schedule an appointment. I am always willing to help students and I care about whether students are grasping the material and enjoying the class.

Phone: 408-924-5546

E-mail: eweiss@email.sjsu.edu

Home Page: <http://www.anthrosciences.com>

Departmental Web Page: <http://www2.sjsu.edu/depts/anthropology/people/weiss.html>

Faculty Web Page: http://www.sjsu.edu/faculty_and_staff/faculty_detail.jsp?id=565

COURSE WEB PAGE: http://www.sjsu.edu/faculty_and_staff/course_detail.jsp?id=2356

COURSE DESCRIPTION

Advanced quantitative methods to gain comprehension of statistical analyses, especially in regards to predictive value for regional issues. Emphasis will be on understanding statistics, creating databases, using statistical software packages, and employing proper statistics. Prerequisite: STAT 095 or equivalent

This course emphasizes the understanding of quantitative methods for the analysis of various data sets. Additionally, students will be able to determine appropriate statistics for different projects, interpret statistics in reports and scholarly literature, create databases, use statistical software packages (e.g., SPSS), and comprehend statistical results, especially in regards to predictive value for regional issues.

Learning Objectives For ANTH235

By the completion of this course, students should have an increased:

1. Ability to recognize a testable hypothesis.
2. Understanding of sample size constraints and other complications of data sets.
3. Familiarity with the forms of anthropological data and working knowledge of how to access, understand, and interpret such information.
4. Understanding of quantitative analyses in anthropological and other social science literature.
5. Ability to critically evaluate the use of statistical tests and interpretations based on those tests.
6. Knowledge of the research methods of the sub-disciplines of anthropology, and ability to apply appropriate research methods in at least one sub-discipline.
7. Knowledge of variable formation and errors in data collection.

8. Understanding of the differences between cause and correlation and the complications involved in separating them.
9. Understanding of basic concepts of statistics, such as meta-analyses, aggregation, correlation, and predictive validity.
10. Ability to analyze data and interpret the results in order to present and communicate anthropological knowledge and the results of anthropological research to different audiences.

Learning Goals and Skills Specific to ANTH235

1. Learn and apply basics of SPSS statistical package for Windows.
2. Be able to determine appropriate statistical methods for different research projects.
3. Understand quantitative analyses in the scholarly literature
4. Be able to create databases and use databases that have been created to answer questions.
5. Be able to recognize and create replicable variables useful in problem solving.
6. Be able to use statistics and interpret data sets to answer research questions.

Objectives of MA program

Along with the specific course objectives, the Anthropology department has objectives that are addressed in all of their courses, which are listed below.

KNOWLEDGE

1. Understanding culture as the distinguishing phenomenon of human life, and the relationship of human biology and evolution.
2. Awareness of human diversity and the ways humans have categorized diversity.
3. Knowledge of the significant findings of archaeology, cultural anthropology, and physical anthropology, and familiarity of the important issues in each sub-discipline.
4. Knowledge of the history of anthropological thought and its place in modern intellectual history.
5. Comprehension of migration, colonialism, and economic integration as significant phenomenon shaping global society.

SKILLS

6. Ability to access various forms of anthropological data and literature.
7. Awareness of importance and value of anthropological knowledge in contemporary society, and the ability to apply it to social issues.
8. Knowledge of the research methods of the sub-disciplines of anthropology, and the ability to apply appropriate research methods in at least one sub-discipline.
9. Ability to present and communicate anthropological knowledge and the results of anthropological research to different audiences.

PROFESSIONAL VALUES

10. Knowledge of political and ethical implications of social research

Attaining the Course Objectives/Goals

This course is about understanding and conducting research. You will be expected to be able to read journal articles and understand the statistical sections and their interpretations. You also should be able to understand why different statistical tests are used and which are appropriate for different purposes. You will be challenged to think critically, apply sound scientific methodologies to your own data, understand and assess quantitative data, and communicate your knowledge.

At SJSU students are encouraged to recognize that education is participatory experience. Thus, each student is expected to contribute to further refining the course objectives (so better to articulate your individual expectations and needs), to give feedback to the instructor regarding the adequacy of your learning and how well the course assessment measures that learning (and how these assessment tools can be improved). Finally, each student is challenged to be engaged in the exploration of the fascinating material covered this semester and to participate in class discussions and to relate in assignments and exercises how you can apply these concepts to your everyday life.

The most important contribution this course can make to your education is to provide you with greater ability to think critically. As a result, this skill will contribute permanently to your further education, that it, for the remainder of your lifetime.

GRADING POLICY AND PROCEDURES

Grades will be based on 5 homework assignments, a midterm and a final, and a final project. The homework assignments will be given in class unannounced and due the following class period. Homework assignments will focus on using the gained knowledge in applied problems. These include being given a problem from current media sources (e.g., newspapers) and determining how to phrase a testable hypothesis to try to define or help solve the problem; using data from the internet effectively to try to answer a hypothesis that applies to the Silicon Valley; determining whether the type of statistics applied in certain studies was appropriate, etc.

The midterm (on March 20th) and final (on May 22nd) will focus on the understanding of statistical method and theory, especially in regards to applied anthropology. These exams will be in class and without notes. The final will be comprehensive and it will be given on the scheduled final exam listed in the course catalog.

The final project will involve formulating a hypothesis, determining the data that would be collected, choosing the statistics that would be used, and explaining the reasons behind your choices (using information from class lectures, readings from the scholarly literature, SPSS knowledge, and information from the texts). The final project will involve writing out a proposal using information learned in class to research a topic in applied anthropology. Aspects of hypothesis formulation, data collection, ethics, statistical tests applied, and what can be drawn from the study should be addressed. Further information regarding this project will be provided in class. The final project is due on the last day of class, May 15th.

Grading

Homework Assignments	25%
Midterm	20%
Final	25%
Final Project	30%
Total	100%

Grading is as followed:

A	B	C	D	F
97% - 100% = A+	87-89% = B+	77-79% = C+	67-69% = D+	59% and Below = F
91-96% = A	81-86% = B	71-76% = C	61-66% = D	
90% = A-	80% = B-	70% = C-	60% = D-	

MAKE-UP ASSIGNMENTS

- If you know in advance that you should be unable to attend a class, especially when an exam is given or a homework assignment is due, it is your responsibility to contact me immediately either at my office, via e-mail, leaving a message for me at the main department office, or coming by during my office hours.
- Only students with a valid documented excuse will be able to take a make-up exam or hand in a late assignment. Late assignments will not be accepted otherwise. **EACH EXCUSE WILL BE EVALUATED ON A CASE-BY-CASE BASIS AND ALL DECISIONS ARE FINAL**

MISCELLANEOUS

- E-mails will only be answered in order to make appointments to see me in my office.
 - I will not answer questions about what occurred in class due to an absence, paper topics, research, or missing assignments.
- You must sign up with the Disability Resource Center to get any special consideration regarding any disability.
- Students are responsible for understanding policies about adding, dropping, academic renewal, and incompletes.
- Students are responsible for being aware of assignment due dates, midterm date, and the final exam schedule.
- Students who miss classes should keep up with course readings and obtain notes from a classmate.
- If you have any concerns about your class performance or comprehension, come by my office during office hours or schedule an appointment. I am always willing to help students and I care about whether students are grasping the material and enjoying the class.
- Library Liaison For Anthropology: Bernice Redfern; Librarian; (408) 808-2038; Bernice.Redfern@sjsu.edu

UNIVERSITY, COLLEGE, OR DEPARTMENTAL POLICY INFORMATION

Academic Integrity statement (from Office of Judicial Affairs):

"Your own commitment to learning, as evidenced by your enrollment at San José State University and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity can be found at <http://www2.sjsu.edu/senate/S04-12.pdf>"

Campus policy in compliance with the Americans with Disabilities Act:

"If you need course adaptations or accommodations because of a disability, or if you need 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 register with DRC to establish a record of their disability."

READING MATERIAL

Required Texts:

- *Essential Statistics*. By J.H. Wilson, Pearson Prentice Hall: 2005.
 - *Study Guide: Essential Statistics*. By J.H. Wilson, Pearson Prentice Hall: 2005.
 - *Essentials of Statistics for the Social and Behavioral Sciences*. By Barry H. Cohen and R. Brooke Lea, John Wiley & Sons: 2004
- (IN COURSE OUTLINE: (W = Wilson; WS = Wilson, Study Guide; C&L = Cohen & Lea)

Optional Texts:

- *Statistics for Anthropology*. By Lorena Madrigal, Cambridge University Press: 2000.
- *Social Statistics: An Introduction Using SPSS for Windows*. By J. Richard Kendrick, Mayfield Publishing Company: 2000.
- *How to think about Statistics*. John L. Phillips, Jr., W.H. Freeman & Company: 1992.
- *Quantitative Methods in Social Science*. Stephen Gorard, Continuum: 2003.

Journal Articles:

A number of journals regularly publish articles on quantitative analyses of archaeological and anthropological observations. These journals are essential in the field and understanding their methods will be essential for your class project and your theses. The following list includes some of the journals that you will be looking through:

American Antiquity
Journal of Archaeological Science
Current Anthropology
Antiquity
Journal of World Prehistory
Evolutionary Anthropology

Yearbook of Physical Anthropology
American Anthropologist
Annual Review of Anthropology
American Journal of Physical Anthropology
International Journal of Osteoarchaeology

Others can be found on the SJSU library webpage: www.sjlibrary.org/research/ejournals
Additionally, here is a short list of articles, which is intended to help you get started.

- Holman DJ, Grimes MA (2003) Patterns for the initiation of breastfeeding in humans. *American Journal of Human Biology* 15: 765-780.
- Wood JW. (1998) A theory of preindustrial population dynamics. *Current Anthropology* 39: 99-135.
- Weiss E. (2003) Understanding muscle markers: Aggregation and construct validity. *American Journal of Physical Anthropology* 121: 230-240.
- English-Lueck JA. (2004) Reinventing therapeutic expectations in Silicon Valley. <http://www2.sjsu.edu/depts/anthropology/svcp/SVCPrtex.html>
- de Waal FBM. (2000) Primates – A natural heritage of conflict resolution. *Science* 289: 586-590.
- Best J. (2001, May 4) Telling the truth about damned lies and statistics. *Chronicle of Higher Education*.

WEBSITES

There are many statistical websites on the internet. Below are a few that may help you understand key concepts.

- **Statistics every Writer should know:** <http://www.robertniles.com/stats/>
- **Electronic Statistics Textbook:** <http://www.statsoftinc.com/textbook/stathome.html>
- **HyperStat Online Textbook:** <http://davidmlane.com/hyperstat/index.html>
- **Internet glossary of statistical terms:** <http://www.animatedsoftware.com/statolos/statolos.htm>
- **Virtual Laboratories in Probability and Statistics:** <http://www.math.uah.edu/stat/>
- **Case Studies:** <http://www.stat.ucla.edu/cases/>

COURSE OUTLINE

Week	Date	Topic	Reading
1	Jan 23	NO CLASS	
2	Jan 30	Introduction Scientific Method Computer Software Programs; SPSS	W Chpt 1
3	Feb 06	Descriptive Statistics I (last day to drop Feb. 5 th) a. Samples and Populations b. Scales of Measurement c. Displaying Data	C&L 1-10; W Chpt 2
4	Feb 13	Descriptive Statistics II (last day to add Feb. 12 th) a. Central Tendency b. Variability Measures c. Normal Distribution	C&L 10-16; W 26-32
5	Feb 20	Descriptive Statistics III a. Standardized Scores b. Departures from Normal Distribution c. SPSS and Descriptive Statistics	C&L 17-27; W 32-50; 70-97
6	Feb 27	Null Hypothesis a. Null Hypothesis Testing b. Confidence Intervals c. Estimating Population Variance	C&L 28-47; W 51-69; 98-113
7	Mar 06	t-Tests I a. Independent Samples b. Paired Samples/Related Samples c. Assumptions	C&L 48-70; W 114-123; WS Chpt 1&2
8	Mar 13	t-Tests II a. SPSS and t-tests b. displaying t-tests	W 123-142
9	Mar 20	MIDTERM; Discussion of Final Project	
10	Mar 27	Spring Break	
11	Apr 3	Correlations and Regressions a. Pearson and Spearman correlations b. Reliability, Validity, and Predictions c. Correlation and Causation d. SPSS and Correlations and Regression	C&L 71-96; W 201-241; WS Chpts 6&7

Week	Date	Topic	Reading
12	Apr 10	ANOVA I a. One-way ANOVA b. Multiple Comparisons c. Post-hoc Tests d. ANOVA and SPSS	C&L Chpt 5; W Chpt 9; WS Chpt 3
13	Apr 17	Power Analyses a. Effect Size b. Power of Various Tests c. Meta-analysis	C&L Chpt 6; W 108-110
14	Apr 24	ANOVA II a. Two-Way ANOVA b. Three-Way ANOVA c. Repeated Measure ANOVAS d. ANOVA and SPSS	C&L Chpts 7&8; W Chpt 10; WS Chpts 4&5
15	May 01	Nonparametric Statistics I a. Defining parametric vs. non-parametric b. Categorical Data Tests c. Ordinal Data Tests	C&L Chpt 9; W 242-254
16	May 08	Nonparametric Statistics II a. SPSS and Nonparametric Statistics b. Graphs	W 254-262; WS Chpts 8&9
17	May 15	Review; Final Project Due	

FINAL EXAMINATION: Tuesday, May 22nd 1715-1930

ACADEMIC INTEGRITY:

Academic integrity is essential to the mission of San José State University. As such, students are expected to perform their own work (except when collaboration is expressly permitted by the course instructor) without the use of any outside resources. Students are not permitted to use old tests, quizzes when preparing for exams, nor may they consult with students who have already taken the exam. When practiced, academic integrity ensures that all students are fairly graded. Violations to the Academic Integrity Policy undermine the educational process and will not be tolerated. It also demonstrates a lack of respect for oneself, fellow students and the course instructor and can ruin the university's reputation and the value of the degrees it offers.

We all share the obligation to maintain an environment which practices academic integrity. Violators of the Academic Integrity Policy will be subject to failing this course and being reported to the Office of Judicial Affairs for disciplinary action which could result in suspension or expulsion from San José State University.

CHEATING:

At SJSU, cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means. Cheating at SJSU includes but is not limited to:

Copying in part or in whole, from another's test or other evaluation instrument; Submitting work previously graded in another course unless this has been approved by the course instructor or by departmental policy. Submitting work simultaneously presented in two courses, unless this has been approved by both course instructors or by departmental policy. Altering or interfering with grading or grading instructions; Sitting for an examination by a surrogate, or as a surrogate; any other act committed by a student in the course of his or her academic work which defrauds or misrepresents, including aiding or abetting in any of the actions defined above.

PLAGIARISM:

At SJSU plagiarism is the act of representing the work of another as one's own (without giving appropriate credit) regardless of how that work was obtained, and submitting it to fulfill academic requirements. Plagiarism at SJSU includes but is not limited to:

The act of incorporating the ideas, words, sentences, paragraphs, or parts thereof, or the specific substances of another's work, without giving appropriate credit, and representing the product as one's own work; and representing another's artistic/scholarly works such as musical compositions, computer programs, photographs, painting, drawing, sculptures, or similar works as one's own.

**Spring 2007
Registration
Instructions, Policies
and Procedures**

For Thursday, November 9, 2006

Academic and Program Administrators
Academic Information
Adding a Class
Alternative Ways to Attend
Calendar
Directory
Dropping a Class
Fees and Payments
Final Exam Schedule
General Education (G.E.)
Grades & Academic Standing
Graduation
Holds
International Students
Parking
Payments
Placement Exams
Police Services
Refunds
Registration
Selecting Courses
Student Rights & Responsibilities
Wait Listing



Registration > Dropping Classes

Dropping a Class

Go to <http://my.sjsu.edu>

- Enter your SJSU ID and Password - you may now use your nine-digit SJSU ID to login to MySJSU. If you are a continuing student and have previously been given a User ID beginning with an uppercase W, you can continue to use this ID to log in.
- If you drop a class, you must do so prior to the time you submit payment to ensure that your registration fees are properly assessed.
- Click on "Drop Classes"
- Click the checkbox next to each class you wish to drop and click "Drop Selected Classes."
- Review your selection and click "Finish Dropping."

✓ **Navigate to "Self Service" > Student center > Drop a class"**

CAUTION!

Instructor Drops

Instructors are permitted to drop students who fail to attend the first scheduled class meeting and who fail to inform the instructor prior to the second class meeting of the reason for any absence and their intention to continue in the class. Some instructors will drop students who do not meet the related course prerequisites. However, they are not required to do so. It is the student's responsibility to make sure classes are dropped.

Priority Registration
Wednesday, November 8 -
Monday, December 18
Payment Due Date:
Tuesday, December 19
Disenrollment for failure to pay:
Wednesday, December 20

Open Enrollment
Tuesday, January 2 -
Tuesday, January 16
Payment Due Date:
Thursday, January 18
Disenrollment for failure to pay:
Friday, January 19

Schedule Adjustment
Wednesday, January 24 -
Monday, February 12
Payment due date:
Wednesday, February 14
Disenrollment for failure to pay:
Thursday, February 15

Monday, February 5
is the last day to:
• Drop classes or
Withdraw from SJSU
without a "W" grade.

• Add and drop courses
of equal net value and not
be responsible for additional
state university fees.

Monday, February 12
is the last day to:
• Add classes
• Submit instructor drops,
if the instructor wishes
to use that option.
• Submit Academic Renewal,
CR/NC and Audit options
http://mysjsu.edu is available
Monday - Sunday, 24 hours daily,
with scheduled maintenance
Mondays 8:00 pm - 11:00 pm,
or as necessary.