

**Quantitative Methods
Anthropology Department; SJSU**

ANTH 235 Section I (34359)
Tuesdays & Thursdays 1500 – 1615

Spring 2008
DMH 167

Dr. Elizabeth Weiss

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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.

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 be able 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 MA courses, which are listed below. Students who successfully complete this program will:

1. understand a range of anthropological research methods and be able to conduct research relevant to problem solving in various settings and for different clients/partners;
2. know basic models of applying anthropology in different settings and have the skills to be able to function as practitioners of several;
3. be knowledgeable about (1) the discipline of anthropology in general and how it contributes to understanding and improving contemporary society, and (2) a particular field of anthropology in greater depth;
4. be able to function effectively in at least one content area or domain of application;
5. understand personal, political and ethical issues inherent in research and application; and
6. develop professionally as practitioners with skills in contracting, project management, and budgeting, as well as the ability to communicate about project goals and findings and the discipline of anthropology to diverse audiences.

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 weekly homework assignments, study guide assignments, a midterm, a final exam, and a final project. For most homework assignments, students will be required to find sources from the anthropological or behavioral sciences literature that use statistical methods; each week, the focus will be on a different type of statistical test. From these articles, students will be asked to define the hypothesis, show comprehension of variables used, demonstrate an understanding of why the statistics chosen are or are not appropriate, and demonstrate an ability to read the results and translate them into common language. Other homework assignments will include the use of gathering data and analyzing the data with SPSS. Study guide assignments will focus on the use of SPSS and to run and comprehend output from the statistical package.

The midterm (on March 20th) and final (on May 19th) will focus on the understanding of statistical method and theory, especially in regards to applied anthropology. These exams will be in class. 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, statistics, and possible conclusions 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.

Administrative

Along with a specific course objective, the Administrative Department has a general objective in mind of providing a broad-based education for the student which will enable him to transfer to a four-year college and complete a baccalaureate degree in a field of his choice. The Department's curriculum is designed to provide the student with a broad-based education which will enable him to transfer to a four-year college and complete a baccalaureate degree in a field of his choice. The Department's curriculum is designed to provide the student with a broad-based education which will enable him to transfer to a four-year college and complete a baccalaureate degree in a field of his choice.

Administrative Course Objectives

The student will be able to identify the major functions of the administrative system and explain the relationship between the various components of the system. The student will be able to identify the major functions of the administrative system and explain the relationship between the various components of the system. The student will be able to identify the major functions of the administrative system and explain the relationship between the various components of the system.

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Grading

Homework Assignments	8 X 2%=	16%
Study Guide Assignments	4 X 3%=	12%
Midterm	1 X 15%=	15%
Comprehensive Final	1 X 27%=	27%
Final Project	1 X 30%=	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.”

1. 100%
 2. 90%
 3. 80%
 4. 70%
 5. 60%
 6. 50%
 7. 40%
 8. 30%
 9. 20%
 10. 10%
 11. 0%

Grading
 Homework Assignments
 Study Guide Assignments
 Midterm
 Final Exam
 Total

Grade	Percentage	Number of Students	Total
A	10%	10	10
B	20%	20	30
C	30%	30	60
D	30%	30	90
F	10%	10	100

STUDENT ASSIGNMENTS

- 1. If you know in advance that you will be unable to attend a class, you should notify the instructor as early as possible. The instructor will then assign you to a substitute class or make other arrangements for you. It is the student's responsibility to attend a class or make other arrangements.
- 2. Only students with a valid documented excuse will be excused from a class. A valid documented excuse will be accepted if it is a doctor's note, a death in the family, or a natural disaster. (SEE THE STUDENT HANDBOOK FOR MORE INFORMATION.)

STUDENT RESPONSIBILITIES

- 1. Students will only be excused from a class if they have a valid documented excuse. A valid documented excuse will be accepted if it is a doctor's note, a death in the family, or a natural disaster. (SEE THE STUDENT HANDBOOK FOR MORE INFORMATION.)
- 2. You must sign in with the instructor at the beginning of each class. If you do not sign in, you will be considered absent. If you are absent for three consecutive classes, you will be dropped from the course.
- 3. Students are responsible for their own academic success. It is the student's responsibility to attend class, complete assignments, and prepare for exams. The instructor will provide support and resources, but it is the student's responsibility to use them.
- 4. Students who miss classes should contact the instructor as soon as possible to discuss the situation. The instructor will provide information on how to make up missed work.
- 5. If you have any questions or concerns, please contact the instructor. The instructor will provide support and resources to help you succeed in the course.
- 6. Please follow the code of conduct. The code of conduct is located in the student handbook. It outlines the expectations for student behavior in the classroom and on campus.

UNIVERSITY COLLEGE OF BUSINESS POLICY STATEMENT

The University College of Business is committed to providing a high-quality education for all students. We are committed to academic excellence, integrity, and respect. We are committed to providing a safe and supportive learning environment for all students. We are committed to providing a variety of programs and services to meet the needs of all students. We are committed to providing a variety of opportunities for student leadership and involvement. We are committed to providing a variety of resources and support for all students. We are committed to providing a variety of services to the community. We are committed to providing a variety of opportunities for research and scholarship. We are committed to providing a variety of opportunities for service to the community. We are committed to providing a variety of opportunities for professional development. We are committed to providing a variety of opportunities for lifelong learning. We are committed to providing a variety of opportunities for personal growth and development. We are committed to providing a variety of opportunities for social and cultural enrichment. We are committed to providing a variety of opportunities for leadership and service. We are committed to providing a variety of opportunities for innovation and creativity. We are committed to providing a variety of opportunities for collaboration and teamwork. We are committed to providing a variety of opportunities for diversity and inclusion. We are committed to providing a variety of opportunities for sustainability and environmental stewardship. We are committed to providing a variety of opportunities for social justice and equity. We are committed to providing a variety of opportunities for global citizenship and international understanding. We are committed to providing a variety of opportunities for leadership and service to the community. We are committed to providing a variety of opportunities for innovation and creativity. We are committed to providing a variety of opportunities for collaboration and teamwork. We are committed to providing a variety of opportunities for diversity and inclusion. We are committed to providing a variety of opportunities for sustainability and environmental stewardship. We are committed to providing a variety of opportunities for social justice and equity. We are committed to providing a variety of opportunities for global citizenship and international understanding.

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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.
- (IN COURSE OUTLINE: (W = Wilson; WS = Wilson, Study Guide)

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:

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| <i>American Antiquity</i> | <i>Yearbook of Physical Anthropology</i> |
| <i>Journal of Archaeological Science</i> | <i>American Anthropologist</i> |
| <i>Current Anthropology</i> | <i>Annual Review of Anthropology</i> |
| <i>Antiquity</i> | <i>American Journal of Physical Anthropology</i> |
| <i>Journal of World Prehistory</i> | <i>International Journal of Osteoarchaeology</i> |
| <i>Evolutionary Anthropology</i> | |

Others can be found on the SJSU library webpage: www.sjlibrary.org/research/ejournals

COURSE OUTLINE

IMPORTANT DATES: Last day to drop Feb. 4th; Last day to add Feb. 11th; Midterm Mar. 20th, Final May 19th

Date	Topic and Assignments	Assigned Readings
Jan. 24	Introduction	
29	Scientific Method, Computer Software (SPSS)	Chapter 1
31	Descriptive Statistics I: Variables and their distribution Homework 1: Understanding Variables – Due 2/5	Chapter 2
Feb. 05	Descriptive Statistics II: Mean, Mode, Median	Chapter 3: 26-32
07	Using SPSS for Descriptive Statistics Homework 2: Using SPSS to Analyze Variables – Due 2/12	Chapter 3: 33-50
12	Descriptive Statistics III: Distribution and Variance	Chapter 4: 51-58
14	Using SPSS for measuring variance Homework 3: Using SPSS to look at Variance; article with variance issues – Due 2/19	Chapter 4: 58-69
19	Z-scores	Chapter 5
21	Using SPSS and Z-scores Homework 3: Article with standardized scores – Due 2/26	
26	Inferential Statistics: Probability Homework 4: Article using probability – Due 2/28	Chapter 6: 82-97
28	Inferential Statistics: Probability	
Mar. 04	Null Hypothesis	Chapter 7: 99-108
06	Type Errors Homework 5: Article with a Null Hypothesis and addresses errors – Due 3/11	Chapter 7: 108-113
11	T-tests	Chapter 8: 114-123
13	T-tests on SPSS Homework 6: Article using T-test; WS: Chapters 1 & 2 – Due 3/18	Chapter 8: 123-142

Date	Topic and Assignments	Assigned Readings
18	Midterm Review	
20	MIDTERM	
25	SPRING BREAK	
27	SPRING BREAK	
Apr. 01	Discussion of Final Project; One-way ANOVA	Chapter 9: 143-159
03	SPSS and One-way ANOVA WS: Chapter 3 – Due 4/8	Chapter 9: 159-170
08	Two-way ANOVA and SPSS and Two-way ANOVA Homework 7: Article using ANOVA; WS: Chapters 4 & 5 – Due 4/15	Chapter 10: 171-200
10	No Class: American Association of Physical Anthropologists	
15	Correlations	Chapter 11
17	Correlations on SPSS WS: Chapter 6 – Due 4/22	
22	Regressions	Chapter 12: 224 -232
24	Regressions on SPSS Homework 7: Article with regression or correlation; WS: Chapter 7 – Due 4/29	Chapter 12: 233-241
29	Nonparametric Statistics I	Chapter 13: 242-254
May 01	Nonparametric Statistics II: On SPSS Homework 8: Article with nonparametric statistics; WS: Chapters 8 & 9 – Due 5/06	Chapter 13: 254-262
06	Culminating the statistics experience and work on Final Project	
08	Work on Final Project	
13	Final Review; Final Project Due	

FINAL EXAM: Monday, May 19th at 1445-1700