

San José State University
Social Sciences/Anthropology
ANTH235, Quantitative Methods, Section 1, Spring 2011

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Office Hours: Tu 1500 – 1745; Th 1500 – 1715
Class Days/Time: Tuesdays 1800 – 2045
Classroom: CL 204

Faculty Web Page and MYSJSU Messaging

Copies of the course materials such as the syllabus, major assignment handouts, etc. may be found on my faculty web page. You are responsible for regularly checking with the messaging system through MySJSU (or other communication system as indicated by the instructor).

<http://www.sjsu.edu/people/elizabeth.weiss/>

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.

Course Goals and Student Learning Objectives

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 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.

Required Texts/Readings

Textbook

Gorard, S. 2003. *Quantitative Methods in Social Science: The role of numbers made easy*. London: Continuum. ISBN 0-8264-6586-2

Other Readings

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

Other Materials

SPSS Software

Obtained through University Help Desk, located on the first floor of Clark Hall in room 102. Cost is \$15 for either Mac or Windows. For more information:

<http://www.sjsu.edu/helpdesk/software/licensing/>

Classroom Protocol

- You must sign up with the Disability Resource Center to get any special consideration regarding any disability.
- 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.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. [Information on add/drops are available at http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-298.html](http://info.sjsu.edu/web-dbgen/narr/soc-fall/rec-298.html). [Information about late drop is available at http://www.sjsu.edu/sac/advising/latedrops/policy/](http://www.sjsu.edu/sac/advising/latedrops/policy/). Students should be aware of the current deadlines and penalties for adding and dropping classes.

Assignments and Grading Policy

GRADING POLICY AND PROCEDURES

Grades will be based on homework assignments, a midterm, a final exam, and a final project. For most homework assignments, students will be required to either find sources from the

anthropological or behavioral sciences literature that use statistical methods or utilize SPSS and provide printouts of their results. For the 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.

The midterm (on March 15th) and final (on May 17th) 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 10th.

Grading

Homework Assignments	5 X 5%	=	25%
Midterm	1 X 20%	=	20%
Comprehensive Final	1 X 30%	=	30%
Final Project	1 X 25%	=	25%
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-	

University Policies

Academic integrity

Students should know that the University’s [Academic Integrity Policy is available at http://www.sa.sjsu.edu/download/judicial_affairs/Academic_Integrity_Policy_S07-2.pdf](http://www.sa.sjsu.edu/download/judicial_affairs/Academic_Integrity_Policy_S07-2.pdf). 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 website for [Student Conduct and Ethical Development is available at http://www.sa.sjsu.edu/judicial_affairs/index.html](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 DRC (Disability Resource Center) to establish a record of their disability.

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Course Schedule

List the agenda for the semester including when and where the final exam will be held. Indicate the schedule is subject to change with fair notice and how the notice will be made available.

Table 1 Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1	2/1	Introduction; Chapter 1
2	2/8	Finding Secondary Data; Chapter 2 Discussion of Final Project
3	2/15	Simple Analyses: Types of Variables, Means, Mode, Median; & Deviations; Numbers in the Media; Chapter 3 SPSS, Introduction, Entering Data, Running Descriptives, Graphing
4	2/22	Sampling: Population vs. Sample, Sample Size, Standard Error, Random Sampling; Chapter 4 HOMEWORK1 DUE: Example from media use of statistics and the actual article published on the study.
5	3/1	Questionnaire Design: Turning Qualitative into Quantitative; Chapter 5 SPSS, Entering Data and Coding Variables.
6	3/8	Nonparametrics: Chi-Square, Chapter 6 SPSS: Running non-parametrics HOMEWORK 2 DUE: SPSS spreadsheet and variable printout plus descriptive statistics printout and graphs printout.
7	3/15	Nonparametrics: Kolgorov-Smirnoff, Mann-Whitney, and Kruskal-Wallis: Chapter 6 Midterm Review SPSS: Running non-parametrics
8	3/22	MIDTERM HOMEWORK 3 DUE: SPSS non-parametric tests output.
9	3/29	SPRING BREAK
10	4/5	Hypothesis Testing and Parametrics: Cause and Effect; Chapters 7 & 8
11	4/12	Parametric Assumptions; Chapter 9 SPSS: Running tests for parametric assumptions HOMEWORK 4: Article with experimental method.
12	4/19	Simple Parametric Tests: T-test and One-Way ANOVA; Chapter 9 SPSS: Running T-tests and ANOVAs

Week	Date	Topics, Readings, Assignments, Deadlines
13	4/26	Aggregation; Chapter 9 SPSS: Standardized Numbers and Aggregation
14	5/3	Correlations and Regressions; Chapter 10 SPSS: Running Correlations and Regressions HOMEWORK 5: SPSS output on nonparametric assumptions and tests.
15	5/10	Final Review; Final Project Due
Final Exam	5/17	1715-1930, CL204