

San José State University
COSS/ANTH
ANTH235, Quantitative Methods, Section 01, Spring 2022

Course and Contact Information

Instructor(s): Professor Elizabeth Weiss

Office Location: CL404R

Telephone: 408-924-5546

Email: Elizabeth.Weiss@sjsu.edu

Office Hours: T, R 1200-1300

Class Days/Time: W 1800-2045

Classroom: WSQ004

Prerequisites: Students must have successfully completed STAT 95 or equivalent.

Course Description

This course presents advanced quantitative methods with the goal of equipping students for applied anthropology research as well as the knowledge to evaluate anthropological and social science articles. The seminar emphasis will be on understanding statistics, creating databases, using statistical software packages, and employing proper statistics. Students will engage with hands-on use of statistical software packages and application of methods in real-world settings through projects and seminar discussions. Since this is an anthropology course rather than solely a statistical course, the focus will be on teaching students how to think about quantitative datasets in social science settings and think about the role these data play in addressing research questions. Students who have a willingness to think and a desire to learn are fully equipped to be successful in this class, regardless of any prior knowledge of statistics or math-phobias.

Course Learning Outcomes (CLO)

Upon successful completion of this course, students will be able to:

LO1 Apply common statistical tests to analyze anthropological data sets.

LO2 Critically examine the use of statistical analyses in anthropological arguments and published articles.

LO3 Build datasets appropriate to statistical analyses to address anthropological research questions.

Textbook

Reading materials will be provided either in PDF format or be made available at the SJSU Library Course Reserve. Students will also be required to find articles using the electronic databases available through the SJSU Library website.

Other technology requirements / equipment / material

Students will also be required to have SPSS and JASP on their computers.

Course Requirements and Assignments

Seminar participation and preparation (1 pts/wk= 15 points): Each student is expected to attend class, bring notes on readings assigned for that day's discussion, and bring completed answers to the practice problem sets

(when assigned). Students who fail to attend seminar meetings, who arrive late, or who do not substantively contribute to the discussion will not receive credit for the week.

Article analysis (2.5 pts/analysis =15 points): Each week that we discuss a particular statistical method/test, students are expected to find a relevant quantitative-based anthropology article which uses that method. These six self-identified case studies will be analyzed and students will submit short summaries (2-4 pages double-spaced) describing the research design, variables and sampling strategies, how the results are reported for the stats test you are highlighting, and quantitative methods of the study. Students will be asked to discuss the article in class. The papers must be turned in to the instructor in class—no papers will be accepted late.

SPSS/JASP lab module (2.5 pts/module =15 points): Six times throughout the semester, students will complete statistical analysis modules that will teach the use of SPSS and JASP software. These lab activities will be started in class, but may take more time outside of class to complete. The lab paperwork must be turned to the instructor at the designated time—no papers will be accepted late.

Mini-projects (2x15pts=30 pts): Two mini-projects will provide hands-on experience with quantitative data generation using methods of ethnographic coding and survey development. These activities are designed to be completed based on in-class practice for each activity. Students will be required to present their findings to the class. Full descriptions of each activity will be provided prior to each assignment—no papers will be accepted late.

Final project (1X25pts=25 pts): The final project will provide hands-on experience with quantitative data generation using methods of at least 3 aspects of statistics covered in class. Students will be required to present their projects to the class. Full description of the final project requirements will be provided in class—no papers will be accepted late.

Total points in course equals 100.

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.”

Final Examination or Evaluation

See Above: Final project.

Grading Information

A plus	99 or above
A	94 through 98
A minus	90 through 93
B plus	88 through 89
B	84 through 87
B minus	80 through 83
C plus	78 through 79
C	74 through 77
C minus	70 through 73
D plus	68 through 69

D 63 through 67
 F below 63

University Policies

Per [University Policy S16-9](#), relevant university policy concerning all courses, such as student responsibilities, academic integrity, accommodations, dropping and adding, consent for recording of class, etc. and available student services (e.g. learning assistance, counseling, and other resources) are listed on [Syllabus Information web page](https://www.sjsu.edu/curriculum/courses/syllabus-info.php) (<https://www.sjsu.edu/curriculum/courses/syllabus-info.php>). Make sure to visit this page to review and be aware of these university policies and resources.

ANTH235 / Quantitative Methods, Spring 2022, Course Schedule

Date	Topics, Readings, Assignments, Deadlines
1/26	Introduction to course and quantitative research; introduction to JASP and SPSS; <u>Lecture 1: The nature of social science research.</u>
2/2	<u>Seminar Discussion: Replicability Crisis.</u> Read: Two supplemental readings (pdf).
2/9	<u>Seminar Discussion: The politics of data, ethics.</u> Read: Agrawal 2002 [pdf]; Palsson and Rabinow 1999 [pdf]; Code of Ethics of the American Anthropological Association.
2/16	<u>Lecture 2: Quantitative Anthropology</u> —Types of data and variables, unit of analysis, samples and populations. <u>SPSS and JASP Module 1, part I: defining variables, entering data.</u> Read: Pallant Ch 1-4, two supplemental readings (pdf), <i>skim</i> Chibnik 1985.
2/23	<u>Lecture 3: Missing Data: Anthropological Reality</u> Read: Two supplemental readings (pdf); <i>self-identified article 1 due in class or before class via email.</i> <u>SPSS/JASP Module 1, part II: Checking for missing data, dealing with missing data</u> – turned in at end of class period or the next day during office hours or via email before 4 PM.
3/2	<i>Mini-project 1 Introduced</i> <u>Lecture 4: Developing Surveys and questionnaires with scales.</u> Read: Pallant Ch 9; two supplemental readings (pdf). In-class activity: practicing survey development.
3/9	<u>Lecture 5: Descriptive statistics and analysis basics</u> —Graphs and frequency distributions, mean, standard deviation and variance, z scores, normal curve, parametric versus non-parametric. <u>SPSS/JASP Module 2: Exploring your data, normality assessment</u> – – turned in at end of class period or the next day during office hours or via email before 4 PM. Read: Pallant Ch. 6, 7.
3/16	<u>Seminar Discussion: Spatial analysis in anthropology.</u> Read: Chalmers & Fabricius 2007 (pdf); Logan & Zhang 2004 (pdf); Goodchild et al. 2000 (pdf); Gatrell & Rigby 2004 (pdf). <i>*Mini-project 1: Survey due (either in class or before class via email). Class presentations of projects.</i>
3/23	<u>Lecture 6: Comparing groups, part 1: Intro to hypothesis testing, p and significance; t-tests, Z-tests, rank order (Mann-Whitney, Wilcoxon).</u>

Date	Topics, Readings, Assignments, Deadlines
	<p>SPSS/JASP Module 3: Hypothesis testing with t-tests, rank order, and Z-tests – – turned in at end of class period or the next day during office hours or via email before 4 PM. <u>Read:</u> Pallant Ch. 10 & 17, Mann-Whitney/Wilcoxon sections (pg. 227-232); Weiss (pdf); <i>self-identified article 2 due in class or before class via email.</i></p>
3/30	Spring Break
4/6	<p><u>Lecture 7: Comparing groups, part 2:</u> Analysis of variance and non-parametric equivalents (Kruskal-Wallis, Friedman), multivariate analysis. SPSS/JASP Module 4: Hypothesis testing with ANOVA– turned in at end of class period or the next day during office hours or via email before 4 PM. <u>Read:</u> Pallant Ch 18, <i>skim</i> 21-22, Kruskal-Wallis/Friedman sections (pg. 232-237); <i>self-identified article 3 due in class or before class via email.</i></p>
4/13	<p><u>Lecture 8: Comparing groups, part 3:</u> Chi-square tests. SPSS/JASP Module 5: Hypothesis testing with Chi-square tests – turned in at end of class period or the next day during office hours or via email before 4 PM. <u>Read:</u> Pallant pg. 215-221; Havlicek (pdf), <i>self-identified article 4 due in class or before class via email.</i></p>
4/20	<p>Mini-project 2 Introduced <u>Lecture 9: Quantitative meets Qualitative:</u> Ethnographic interviews, OCM codes, joining qualitative and quantitative research. <u>Read:</u> Weisner 2012 (pdf); five supplemental readings (pdf). <u>In-class activity:</u> practicing ethnographic/visual coding.</p>
4/27	<p>Final Project Introduced <u>Lecture 10: Exploring relationships among variables:</u> Correlation (Pearson’s r, Spearman’s rho), prediction, regression. SPSS/JASP Module 6: Correlations – turned in at end of class period or the next day during office hours or via email before 4 PM. <u>Read:</u> Pallant Ch 11; <i>self-identified article 5 due in class or before class via email.</i></p>
5/4	<p><u>Lecture 11: Other Quantitative Data in Anthropology:</u> Historical records, unstructured/structured observation, artifactual datasets, big data. <u>Read:</u> Two supplemental readings (pdf); <i>self-identified article 6 due in class or before class via email.</i> <u>In-class presentations:</u> practicing ethnographic/visual coding of progress of mini-project 2; use feedback to finalize mini-project 2. *<i>Mini-project 2: Ethnographic coding mini-projects due (either in class or before class via email).</i></p>
5/11	<p>Course wrap-up. Presentation of final projects; work of final project utilizing feedback from presentation.</p>
5/18	<p>Final Project Due by 7:30 PM: Drop off at CL404R between 5:15 PM and 7:30 PM.</p>