

ANTHRO 652 Anthropological Statistics
Spring 2008
Dr. Cynthia A. Wilczak

*Before the curse of statistics fell upon mankind we lived a happy innocent life, full of
merriment and go, and informed by fairly good judgment.*
-Hillaire Belloc
The Silence of the Sea (1940): On Statistics

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office hours: TW 2:00-3:00, Sci 379 or by appointment (use e-mail)

Lecture: Wed 3:35-5:15 Lecture Sci 273; 5:30-6:20 Computer Lab HSS 380

General Course Description

ANTH 652 is an introduction to statistical methods for anthropologists, archaeologists, and other social scientists. We will start from the beginning with data collection and I will assume that students in the course do not have any prior experience with statistics. By the end of the semester, I want you to have a firm understanding of basic quantitative analyses and the use of the SPSS statistical program so you will be able to conduct analyses of your own research data, evaluate the quantitative methods presented in research papers within your field, and be prepared for classes in more advanced statistical methods. Students will also write a paper focused on the statistical analysis of a quantitative anthropological data set. Use of data collected for a thesis project is encouraged. Students who do not have their own data will need to identify public access data sets from the literature or on the web. I do have some data sets available for students interested in skeletal biology and other faculty advisors may be willing to share data they have collected.

Course Structure: We will meet each Wednesday from 3:35 to 5:15 for lectures and discussions in Sci 273. From 5:30 to 6:20, we will move to the computer lab in HSS 380 to begin the weekly SPSS-based assignments. You should bring Pallant's Survival Manual with you to use during this second portion of the class.

Required Texts

Hinton P.R. (2004) *Statistics Explained*. 2nd ed. Routledge: London. ISBN 0-415-33285-0

Julie Pallant (2007) *SPSS Survival Manual*. Open University Press/McGraw-Hill. ISBN: 0-335-22366-4

The Survival Manual is an excellent guide to using SPSS. However, you may also want to access the SPSS program manuals. They are available for free download at:

<http://www.wright.edu/cats/docs/docroom/spss/>

SPSS

We will be using the SPSS statistical package in the computer lab during the last hour of the class. You will have time to begin some of the exercises for the weekly assignments, but you may need additional time to complete them. If you do not want to buy the program, it is installed in all of the on-campus computer labs. Some of you may find it more convenient to install SPSS on your own computer. You can buy the SPSS 15.0 student version at the campus store or on-line for around \$90. This version is hundreds of dollars cheaper than the full version, but it is limited to a 4-year license, handles only 50 variables and 1500 cases, does not include all of the advanced statistics of the full version, and you can't add modules on for specific types of statistics. However, it is more than adequate for what you will need in this class (and likely any other class). Students who plan to use nonlinear regression (logistic regression and probit analysis) or analyze complex relationships using the general linear and mixed models for graduate work, may want to invest in the SPSS graduate package (\$184 at the campus store). The other advantage of the graduate version is that you can add-on modules if you require other specific statistical capabilities not available in the base version. You should be aware that this version is also limited to a 4-year license. Another option is to rent the grad pack from e-academy for 6 months (\$50) or 1-year (\$79). <http://www.e-academy.com/>

Grading

Your grade will be based on weekly exercises (in and out of class) a research paper, and two short tests. All exercises will be due 1 week after they are assigned.

Tests	=	15%
Assignments	=	50%
Research Paper	=	35% pts

iLearn

I will be using iLearn to post all assignments, handouts, announcements, and grades. Check the class page at least once a week for any new information. The page will be organized into weekly sections and any relevant supplemental material will be linked to that week. Most documents will be posted as pdf files. You must have a copy of Adobe Acrobat installed to view these documents. For a free copy of the reader go to: <http://www.adobe.com/downloads/>

Weekly Exercises and the Final Project

Nearly every week you will be given a graded exercise. They will be designed to give you practical experience using methods covered in the class. The exercises will be posted on ilearn as they are assigned. The final write-up of the weekly exercises must be completed on an individual basis. Although extensive communication and discussion of problems among class members is encouraged, xeroxed SPSS output or identical explanations will not be accepted. You will usually have time to begin these exercises during the second part of the class period. They need to be completed and handed in at the beginning of class, one week after they are assigned.

Students will also need to complete a paper/project in which they pose a research question/hypothesis, identify an appropriate data set to answer the question, present descriptive statistics in tables and graphs, and test their hypotheses using the appropriate statistical tests. A more detailed explanation of the project will be posted on ilearn. **You must submit a project proposal and identify a data set by 3/6. Final papers are due on Friday, 5/23 by 1:30pm, no extensions.**

University and Course Policies

SFSU maintains a policy of nondiscrimination on the basis race, color, national origin, sex/gender, sexual orientation, religion, and age. Anyone who feels they have experienced discrimination is encouraged to speak with me so the situation can be rectified. Conversations will remain confidential at the request of the student. All students should feel comfortable and welcome in the SFSU community.

Special Needs: Students with disabilities who need reasonable accommodations are encouraged to contact me early in the semester. The Disability Programs and Resource Center is available to facilitate the reasonable accommodations process. The DPRC, located in SSB 110, can be reached by telephone at 338-2472 (voice/TTY) or by e-mail at dprc@sfsu.edu.

Missed tests or Late Assignments: Make-up tests or late assignments are only accepted in extreme circumstances. For the paper and weekly exercises, you should not wait until the last minute to prepare. It is not acceptable to use computer problems, printer jamming, or illness in the few days prior to a deadline as excuses. It is your responsibility to plan for the unexpected. For missed tests, you must have an approved excuse and documentation. Approved excuses include: a severe illness with medical documentation of an incapacity, religious observances, and University sponsored events. For events such as religious holidays that do not normally have written excuses, please contact me during the first two weeks of the semester if there is an exam conflict. If you unexpectedly miss an exam due to illness, you must make arrangements as soon as possible, bring a doctor's note, and be ready to take the exam within a day or two of your return to campus. For more information on campus policies relevant to missed exams see:

<http://www.sfsu.edu/~senate/documents/policies/F00-212.html>

<http://www.sfsu.edu/~bulletin/current/genpol.htm>

Academic Integrity: All students in the course are expected to adhere to a code of academic integrity and to the University standards for student conduct.

<http://www.sfsu.edu/~bulletin/current/supp-reg.htm#ppg339>

The sanction for cheating will be a failure for that examination or assignment. All cases will be referred to the Judicial Affairs Officer in the Office of Student Affairs who will determine if other formal disciplinary action should be taken. Collaboration in studying and discussion of the lecture topics is encouraged outside of class, but all exams and assignments must be the work of one individual unless otherwise specified in the instructions.

Course Schedule

Chapter 10 of Pallant is a good overview of the statistical methods we will cover in class. Use it throughout the course to review. The course schedule is a general guide. Dates may shift if we need more time for specific topics. Any changes will be updated on the weekly schedule posted on ilearn.

	Text Chapters
Week 1 1/30 Introduction to the Course and Statistics READ Pall Ch 1-2 before class	Hint. Ch. 1 Pall. Ch 1-4, 8
Week 2 2/6 Descriptive Statistics and Standard Scores	Hint. Ch 2, 3 Pall. Ch 5-6
Week 3 2/13 Effective Data Presentation	Pall. Ch. 7
Week 4 2/20 Hypothesis Testing-One Sample Tests	Hint. Ch. 4-6 Pall. Ch. 17
Week 5 2/27 Hypothesis Testing-Two Sample Tests	Hint. Ch. 7-8
Week 6 3/6 Significance, Error and Power	Hint. Ch. 9
Week 7 3/12 Test #1	
Week 8 3/19 ANOVA Analysis and Repeated Measures	Hint. Ch. 10-12 Ch. 18
Week 9 3/26 SPRING BREAK, NO CLASS	
Week 10 4/2 Interactions and Two-factor ANOVA	Hint. Ch. 14-15 Ch. 19-20
Week 11 4/9 AAPA meetings in Columbus, NO CLASS	
Week 12 4/16 Non-Parametric Analysis	Hint. Ch. 16-18 Pall Ch. 16
Week 13 4/23 Chi-Square	Hint. Ch.19
Week 14 4/29 Linear Correlation and Regression	Hint. Ch. 20, 23 Pall. Ch. 11
Week 15 5/7 Test #2	
Week 16 5/14 Multiple Regression and Multivariate Analyses: A Brief Overview	21, 22 Pall. See handout

Final Paper due May 23, 1:30 pm