QUANTITATIVE METHODS IN ARCHAEOLOGY  
Anthropology 726  
Fall 2018 

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COURSE DESCRIPTION:  
This course is an introduction to quantitative methods that are particularly useful to archaeologists. It is not intended to be a substitute for an introductory course in basic inferential statistics. Rather, the emphasis is placed on quantitative pattern-recognition techniques such as exploratory data analysis (EDA), cluster analysis, principal components analysis, and correspondence analysis. Topics in archaeological sampling, seriation, and spatial analysis will also be covered. During the semester, students will use two software packages – STATA and TFQA – to analyze both real and constructed datasets. 

COURSE REQUIREMENTS:  
Besides attending class and doing the assigned readings, you are expected to spend considerable time on weekly take-home exercises. There will also be a final exam. 

BOOKS AND SOFTWARE:  
I have ordered three books that are available at Student Stores: William Cleveland’s *The Elements of Graphing Data*, Stephen Shennan’s *Quantifying Archaeology*, and M. J. Baxter’s *Exploratory Multivariate Analysis in Archaeology*. All are excellent references. All the necessary software is available free of charge on UNC servers. 

COURSE WEB SITE:  
In addition to an electronic version of this syllabus, all the take-home exercises (including datasets) will routinely be posted on the web at <http://rla.unc.edu/courses/anth726/>. Also posted on the web site is detailed information on UNC’s Honor Code and the course policy on collaborative work, which you should read carefully. 

COURSE OUTLINE:  
8/21-9/4  Introduction and basics  
9/6-9/20  Univariate distributions and graphs  
9/25-9/27  Association and correlation  
10/2-10/4  Sampling  
10/9-10/11  Diversity  
10/16  [Catch-up & review]  
10/23-10/25  Classification and cluster analysis  
10/30-11/1  Seriation  
11/6-11/8  Principal components analysis  
11/13-11/20  Correspondence analysis  
11/27-12/4  [Additional topics & review]  
12/8  Final exam (8 am)
Readings

Basics:


Univariate Distributions and Graphs:


Velleman and Hoaglin (1981). *ABC's of EDA*, chapters 3-6 (ignore the computer programs).

Cleveland, William S. (1994). *The Elements of Graphing Data* (revised edition). Read the preface and chapters 1-2; skim chapter 3 (paying special attention to the figure captions); read chapter 4.

Association and Correlation:

Shennan, Stephen (1997). *Quantifying Archaeology*, chapter 8 (read for the concepts, not for the math).


Sampling:


*Diversity:*


*Classification and Cluster Analysis:*


[The above three articles are also reprinted in *Man's Imprint from the Past*, edited by James Deetz (1971).]


Seriation:


Principal Components Analysis:


Correspondence Analysis:


Additional Topics: [TBA]

[rev. 8/19/18]