

PUBP 704: STATISTICAL METHODS FOR POLICY ANALYSIS Fall 2007

Instructor: Lisa A. Fowler
Email: lfowler2@gmu.edu
Telephone: (703) 993-2265
Office Hours: Thursday 6:00 – 7:00 pm (in Arlington main office) or by appointment (in Fairfax or Arlington)
Course Day/Time: Thursday at 7:20 pm
Course Location: Arlington Campus, Room 242

COURSE OBJECTIVE

Much of the work of public policy analysis involves quantitative methods, particularly statistical methods. This course will provide students with an introduction to basic statistical techniques, as well as one of the most popular statistical packages, SPSS. The specific course objectives are to enable students to:

- Understand the logic behind statistics,
- Interpret statistics in public policy research,
- Use appropriate statistical methods,
- Present statistical information effectively, and
- Incorporate statistics into their work as policy analysts.

COURSE MATERIALS

Norusis, Mrija. 2006. *SPSS 14.0: Guide to Data Analysis*. Prentice Hall.

Rocheftort, David A. 2005. *Quantitative Methods in Practice: Readings from PS*. CQ Press.

Additional readings and online resources will be provided by the instructor during the course.

EXPECTATIONS AND COURSE ASSIGNMENTS

Homework Assignments

Most weeks there will be homework assigned. Much of it will be from the *Guide to Data Analysis*, which comes with a student version of SPSS. Students will need to have access to a computer that can load the program. (Please note: if you already have SPSS at home or work, and want to save about \$30, you can buy a copy of the book without the SPSS software from Amazon. It is highly recommended, however, that you purchase the software if you do not have regular access to SPSS. It is available in our labs, but students who do not have access to it at home tend to do worse on homework.)

Students are expected to complete their homework on time and to turn it in at the beginning of class. Unless arrangements are made with the instructor, late homework assignments will not be accepted. Homework will be announced each week by the instructor. If you are not present, it is

your responsibility to receive the assignment from a classmate or from the instructor. Ignorance of the homework is not an excuse for non-completion.

Homework should reflect your own work and your own understanding of the material. However, some students find it beneficial to work with a small group when studying statistics. If you work through the homework assignments with one to three other people, each person must turn in a separate assignment. They should not be identical in language and in the presentation of computation. If you are not understanding the work, but merely copying someone else's work, you are not going to be able to pass the mid term or final. Students should also have available a decent calculator.

In previous classes, the best predictor of a student's final exam grade was not performance on the midterm, but rather the quality of his or her homework assignments. Put the time into the homework early and you won't be behind at the final.

Project

In order to fully understand data analysis and the uses to which public policy analysts can put data, each student will prepare a short policy paper using a set of commuting data collected via an online survey. The dataset will be provided to you by your instructor. You may pose any question and use any of the following methods to examine the question: correlation analysis, regression analysis, or cross tabular analysis. Your paper will need to be at least four pages of text (1,000 words) with at least two pages of additional charts and/or tables. Careful attention should be paid to language and grammar, as well as to the statistical analysis.

Your paper should follow this format: Introduction/Research Question, Hypothesis, Data and Methods, Analysis and Conclusion. You do not need to conduct a literature review.

Midterm

The midterm will be an in-class exam covering the first half of the semester's coursework.

Final

The final will be a take-home exam. Students will have one week to complete the final.

GRADES

Grades will be computed based on the following formula:

Homework	20% (average of all assignments)
Paper	20%
Midterm	20%
Final	40%

ACADEMIC ACCOMMODATION FOR A DISABILITY

If you are a student with a disability and you need academic accommodations, please see me and contact the Disability Resource Center (DRC) at 703-993-2474. All academic accommodations must be arranged through the DRC.

SPP POLICY ON PLAGIARISM

The profession of scholarship and the intellectual life of a university as well as the field of public policy inquiry depend fundamentally on a foundation of trust. Thus any act of plagiarism strikes at the heart of the meaning of the university and the purpose of the School of Public Policy. It constitutes a serious breach of professional ethics and it is unacceptable.

Plagiarism is the use of another's works or ideas presented as one's own. It includes, among other things, the use of specific words, ideas, or frameworks that are the product of another's work. Honesty and thoroughness in citing sources is essential to professional accountability and personal responsibility. Appropriate citation is necessary so that arguments, evidence, and claims can be critically examined.

Plagiarism is wrong because of the injustice it does to the person whose ideas are stolen. But it is also wrong because it constitutes lying to one's professional colleagues. From a prudential perspective, it is shortsighted and self-defeating, and it can ruin a professional career.

The faculty of the School of Public Policy takes plagiarism seriously and has adopted a zero tolerance policy. Any plagiarized assignment will receive an automatic grade of "F." This may lead to failure for the course, resulting in dismissal from the University. This dismissal will be noted on the student's transcript. For foreign students who are on a university-sponsored visa (e.g. F-1, J-1, or J-2), dismissal also results in the revocation of their visa.

To help enforce the SPP policy on plagiarism, all written work submitted in partial fulfillment of course or degree requirements must be available in electronic form so that it can be compared with electronic databases, as well as submitted to commercial services to which the School subscribes. Faculty may at any time submit student's work without prior permission from the student. Individual instructors may require written work be submitted in electronic as well as printed form. The SPP policy on plagiarism is supplementary to the George Mason University Honor Code; it is not intended to replace or substitute for it.

<http://www.gmu.edu/facstaff/handbook/aD.html>)

COURSE OUTLINE

Aug 30	Quantitative Methods in Public Policy: Review of Basic Statistics and Introduction to Theories, Variables, Concepts
Sep 6	Introduction to SPSS and Project Reading: Norusis, Ch. 1-3 Rochefort, Ch. 1-2
Sep 13	Central Tendency and Dispersion Reading: Norusis, Ch. 4-7 Rochefort, Ch. 4
Sep 20	Crosstab Analysis, Normal Distribution, and Z Scores Readings: Norusis, Ch. 8-11 Rochefort, Ch. 6
Sep 27	Probability and Sampling Basics Reading: Norusis, Ch. 10-11 (review)—see also Appendices A and B Rochefort, Ch. 10
Oct 4	Inference and Confidence Intervals Reading: Norusis, Ch. 12-13 Rochefort, Ch. 9
Oct 11	More Hypothesis Testing Reading: Norusis, Ch. 12-13 (review), 14, 17
Oct 18	IN CLASS MIDTERM Chi-Squared Tests Reading: Norusis, Ch. 17 (review)
Oct 25	ANOVA Reading: Norusis, Ch. 15-16 Rochefort, Ch. 11
Nov 1	Correlations Reading: Norusis, Ch. 19-20
Nov 8	Regression Reading: Norusis, Ch. 21-22 Rochefort, Ch. 13
Nov 15	Multiple Regression Models Reading: Norusis, Ch. 23-24 Rochefort, Ch. 17
Nov 22	Thanksgiving Holiday
Nov 29	Logistic Regressions Reading: Rochefort, Ch. 19
Dec 1	Residuals, Diagnostics, and Techniques for Presenting Data

Dec 8	PAPER DUE Final Exam Review
Dec 15	FINAL EXAM DUE