

PSC 602
Quantitative Political Analysis
and Program Evaluation
Fall, 2007
Mondays, 18:30-21:30

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SYLLABUS

This course is concerned with the basic methods and techniques used in the quantitative analysis of political and social data. We will cover the various aspects of research--definition of the project, design of the research, collection of the data, and analysis of the data--with an emphasis on the quantitative methods used in policy analysis and program evaluation.

The focus will be on the logic behind the application of various methods, with the aim of improving your understanding of the principles of quantitative research. This course should increase your ability to interpret and evaluate such research, including both proposed research and completed studies. This is not a "cookbook" course, concerned primarily with the "nuts and bolts" of research, which would be useful for individuals who will actually be conducting research. This course is designed more for the person who has to read, interpret, and evaluate research. Of course, knowledge of basic principles makes it easier to learn specific techniques, so this course also should be useful for those who intend to do research in the future.

This is not primarily a statistics course. It is a course in quantitative analysis. Applications of statistics to data analysis will be covered, but this course is not a substitute for a course in statistical theory. No statistical background is required for this course, but those with little or no knowledge of statistics should anticipate having to devote more time to the course.

Individuals not in the political science graduate program should secure the consent of the instructor before enrolling.

Student Learning Objectives

As a result of taking this course, students should be able to:

1. Construct and assess measurement instruments that would be used in the evaluation of public policies and programs.
2. Design and assess research designs that would be used in the evaluation of public policies and programs.
3. Conduct and assess data analyses that would be used in the evaluation of public policies and programs.

Books

The following books are available at the bookstore:

- Kenneth Meier, Jeffrey Brudney, and John Bohte, *Applied Statistics for Public and Nonprofit Administration*, 6th ed. (Thompson Wadsworth, 2006).
Marija Norusis, *SPSS 15.0 Guide to Data Analysis*. (Prentice-Hall, 2006).
Elizabethann O'Sullivan, Gary Rassel, and Maureen Berner, *Research Methods for Public Administrators*, 4th ed. (Addison Wesley Longman, 2003).
Carol Weiss, *Evaluation*, 2nd ed. (Prentice-Hall 1998).

Library Reserve Readings

The following items are on e-reserve (available through Blackboard):

- Langbein, *Discovering Whether Programs Work*, chpt. 9.
- Tufte, *Data Analysis for Politics and Policy*, chpt. 1.
- Tufte (ed.), *The Quantitative Analysis of Social Problems*, pp. 110-125 (article by Campbell and Ross on the “Connecticut Crackdown on Speeding”).

The following books are available at the library on closed reserve:

- Bingham & Felbinger, *Evaluation in Practice*, 2nd ed.
- Caro (ed.), *Readings in Evaluation Research*.
- Posavac and Carey, *Program Evaluation: Methods and Case Studies*, 4th ed.
- Strand and Weiss (eds.), *Experiencing Social Research*.

Also on closed reserve is David Moore, *Statistics: Concepts and Controversies*, which is a basic statistics textbook. If you find it difficult to follow the discussions of statistics in the assigned textbooks, you might try reading the relevant chapters in this book, which has a more elementary discussion of statistical concepts.

Course Requirements

The written work for this course will consist of:

1. A take-home exam, covering the material for topic B, contributing 20% to the course grade. The exam is tentatively scheduled to be handed out on August 27 and due on Sept. 17.
2. A take-home exam, covering the material for topic D and focused on the case studies in the readings for topic D3, contributing 30% to the course grade. The exam is tentatively scheduled to be handed out on Oct. 8 and due on Oct. 22.
3. An inferential statistics take-home exam, covering the material for topic E, contributing 20% to the course grade. The exam is tentatively scheduled to be handed out on Nov. 12 and due on Nov. 19.
4. A research paper, involving a computer-based analysis of aggregate data, based on the material in topic F, and contributing 30% to the course grade. Details on this assignment will be provided on November 19 and the paper will be due on the final exam day (December 17).

Course Outline

As the following outline indicates, many of the topics in this course are covered by pulling together readings from several sources. The class sessions therefore are important for the integration of this diverse material, as well as for clearing up confusing or complex material. In order for the class sessions to be worthwhile, it is essential that you complete the assigned readings prior to the appropriate sessions. If you are unable to make a session, be sure to obtain the notes from someone.

A. The aims of research (Aug. 20)

Weiss, chpts. 1, 2

O'Sullivan, Rassel, and Berner, chpts. 1, 2

B. Measurement and data collection

1. Principles of measurement (Aug. 27)

Weiss, chpt. 6

O'Sullivan, Rassel, and Berner, chpts. 4, 10

Meier, Brudney, and Bohte, chpt. 2

2. Sampling and data collection (Sept. 10)

Weiss, chpt. 7

O'Sullivan, Rassel, and Berner, chpts. 5 (plus skim 6-9)

C. Basic descriptive statistics

1. Univariate descriptive statistics (Sept. 17)

O'Sullivan, Rassel, and Berner, chpt. 11

Meier, Brudney, and Bohte, chpts. 4-6

Norusis, chpts. 1, 2, 4, 5

2. Bivariate descriptive statistics (Sept. 24)

O'Sullivan, Rassel, and Berner, chpt. 13

Meier, Brudney, and Bohte, chpts. 15-16

Norusis, chpts. 6-9, 19

D. Research design

1. Basic principles (Oct. 1)

Weiss, chpts. 3, 4, 8
O'Sullivan, Rassel, and Berner, chpt. 3
Tufté, *Data Analysis*, chpt. 1 (on e-reserve)

2. Experimental and quasi-experimental designs (Oct. 8)

Meier, Brudney, and Bohte, chpt. 3
Weiss, chpt. 9
Tufté (ed.), *Quantitative Analysis*, pp. 110-125 (on e-reserve)

3. Case studies (Oct. 22)

Bingham and Felbinger, selected chapters (on reserve)
Caro, selected cases (on reserve)
Posavac and Carey, selected cases (on reserve)
Strand and Weiss, selected cases (on reserve)

E. Inferential statistics

1. Basic principles (Oct. 29)

O'Sullivan, Rassel, and Berner, chpt. 12
Meier, Brudney, and Bohte, chpts. 7-9
Norusis, chpts. 10, 11

2. Parameter estimation (Nov. 5)

Meier, Brudney, and Bohte, chpts. 11, 13
Norusis, chpt. 12 (pp. 235-245)

3. Hypothesis testing (Nov. 6)

Meier, Brudney, and Bohte, chpts. 12, 14
Norusis, chpts. 12 (pp. 246-250), 14

F. Analysis of aggregate data

1. Principles of data analysis (Nov. 19)

Weiss, chpt. 12

Langbein, chpt. 9 (on e-reserve)

2. Applications of bivariate regression analysis (Nov. 26)

O'Sullivan, Rassel, and Berner, chpt. 14 (pp. 427-435)

Meier, Brudney, and Bohte, chpts. 18-19

Norusis, chpts. 20 (optional: chpts. 21, 22)

3. Multiple regression analysis (Dec. 3 and 10)

O'Sullivan, Rassel, and Berner, chpt. 14 (pp. 435-453)

Norusis, chpt. 23 (optional: chpt. 24)

Meier, Brudney, and Bohte, chpts. 21, 23