
Quantitative Techniques in Planning

UAP 5224 Fall 2006 Syllabus

Monday, 7:00-9:30

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Office hours by Appointment (Room 218)

Course Description

UAP 5224—also sometimes confusingly called *Research Methods in Planning and Policy*—is an introductory course in planning-analytic methods. It aims to use common data sources to expose students to a range of quantitative methods that planners may use in their work and, importantly, to the nitty gritty of interpreting results yielded by the application of these methods. The class features lectures, in-class demonstrations and assignments, and out-of class assignments, both individual and group. Material surveyed covers a wide variety of methodological approaches—statistics, cost-benefit analysis, project evaluation, economic base modeling, and decision analysis, among others—with the plurality of course time on statistics.

Required Materials

Kenneth J. Meier, Jeffrey L. Brudney, and John Bohte. 2006: *Applied Statistics for Public and Nonprofit Administration*. 6th edition. (or another approachable stats book)

Other reading on VT Blackboard (more details given in class)

Pocket calculator (cheap and cheesy is fine)

Recommended Resources

Beverly Dretzke. 2004: *Statistics with Microsoft Excel*, 3rd edition.

Gary Blake and Robert W. Bly. 1993: *The Elements of Technical Writing*,.

Assignments, Tentative Due Dates, and Grading

- Problem Sets, 10%: 2 sets of problems at 5% for each set, both individual assignments (due dates are September 8th and October 6th)
- Project Assignments, 30%: 3 assignments at 10% for each assignment, with 1 being individual and 2 being either individual or group as preferred (due dates are September 22nd, October 20th, and November 3rd)
- Class Study, 20%: class survey project (oral presentations on November 13th and written report due Nov. 17th)
- Final Project, 30%: long-term individual project (due week of exams on December 11th, w/ 1-page proposal due September 29th)
- Class Participation, 10%: showing up and fighting comatose leanings is part of it, actively participating is the other

Tentative Schedule

Aug. 21: Introduction and Overview (Week 1)

Aug. 28: Project Evaluation (Week 2)

September 4: Data Taxonomy and Data Sources (Week 3)

Problem Set #1 Due Sept. 8th

September 11: Descriptive Statistics (Week 4)

September 18: Probability (Week 5)

Assignment #1 Due Sept. 22nd

September 25: Inferential Techniques (Week 6)

Individual Project Proposal Due Sept. 29th

Oct. 2: Sampling and Survey Design (Week 7)

Problem Set #2 Due Oct. 6th

October 9: **No Class**

October 16: Regression (Week 8)

Assignment #2 Due Oct. 20th

October 23: Categorical and Ordinal Data, w/ SPSS (Week 9)

October 30: Factor Analysis, w/ SPSS (Week 10)

Assignment #3 Due Nov. 3rd

November 6: Spatial Statistics (Week 11)

November 13: Decision Heuristics and **Oral Presentation of Class Survey Project** (Week 12)

Class Survey Project (written) Due Nov. 17th

November 20: **No Class**

November 27: Economic Base Modeling (Week 13)

December 4: Last Class: Special Topics and **Individual Project Oral Presentations** (Week 14)

Individual Project (written) Due Dec. 11th