

Introduction to Quantitative Methods for the Analysis of Public Policy

CRP 3210

Instructor

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- Office hours: Mon. 1-4pm

Teaching Assistant

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Class

- Tues/Thurs 1:25 – 2:40
- Sibley Hall 115

Lab

- Wed. 7:30pm - 10:30pm
- Sibley Hall 305

Summary

This course equips students with theoretical foundations and methodological tools to design, implement, and evaluate data-informed public policy interventions. Policymakers must employ rigorous analytical methods within environments of complexity, uncertainty, and budgetary constraints. To prepare students for these challenges, this course examines both the conceptual and empirical dimensions of policy analysis. Methods covered include the application of statistical inference and econometrics to forecasting, planning, decision analysis, and program evaluation, among others.

Learning objectives

Upon course completion, you will be able to:

- Analyze public policy problems and feasible interventions
- Understand the relative benefits and drawbacks of policy analysis tools
- Build familiarity with gathering your own data

Course prerequisites

No previous coursework is formally assumed. However, students should possess a curiosity about public policy issues and modest comfort with economic principles and statistics.

Course materials

Materials (assignments, supplementary readings, PowerPoints, and announcements) will be uploaded in Blackboard prior to class. Students will want to familiarize themselves with content before each class.

Student expectations

1. Regular and punctual attendance at lectures and labs is expected. A noticeable number of absences will elicit an inquiry from me and a possible reduction in class participation grade.
2. Students should comport themselves with consideration for the needs of fellow students and teaching staff, and should refrain from distracting behavior. Mobile phone use is not permitted, and laptop use is permitted only for course-related purposes. I reserve the right to modify these rules at any time.
3. Students must observe the university's [Code of Academic Integrity](#) in all matters.
4. Students are responsible for being aware of all announcements made in lectures or on Blackboard.

Accommodations for students with disabilities

In compliance with the Cornell University policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for student with disabilities. Requests for academic accommodations are to be made during the first three weeks of the semester, except for unusual circumstances, so arrangements can be made.

Grading

- 10% Class participation
- 40% Assignments

- 25% Mid-term
- 25% final

Assignments

Six assignments will be due during the course of the semester. These will provide students with an opportunity to begin using the methods discussed in the readings and in class. Students will usually have time to begin working on these during the weekly lab sessions.

Important dates

1. Fall break: No class Tue. Oct 10th
2. Prelim: Tue. Oct 17th - in class
3. Thanksgiving break: No class Thur. Nov 23rd
4. Final exam: Tue, Dec 12 9:00 AM

Course Outline:

1. Planning logic and analysis

- Readings
 - Hopkins (2001) *Urban Development: The Logic Of Making Plans*, Ch. 1-4
 - Ritter and Weber (1973) "Dilemmas in a General Theory of Planning"
 - Head (2008) "Wicked problems in public policy."
- Assignment 1: Analyzing public policy

2. Epistemology

- Readings
 - Abbott (2002) *Methods of discovery: Heuristics for the social sciences*. Ch. 2

3. Surveys: Collection and analysis

- Readings
 - Anderson (1988) *The American Census*
 - History Guys Podcast (2010) "Beyond the Numbers: A History of the U.S. Census" [backstoryradio.org link](http://backstoryradio.org)
 - NPR Code Switch "Here's Why The Census Started Counting Latinos, And How That Could Change In 2020" [NPR link](#)
- Assignment 2: Survey design
- Assignment 3: Census data analysis

4. Demographic forecasting

- Readings:
 - Oppenheim (1980) *Applied Models in Urban and Regional Analysis*
 - Booth (2006) "Demographic forecasting: 1980 to 2005 in review"
- Assignment 4: Demographic forecasting

5. Decision Analysis

- Readings:
 - Stockey and Zeckhauser (1978) *A Primer for Policy Analysis*, Ch. 12
 - Fischhoff and McDananiels (2005) "Acceptable input: using decision analysis to guide public policy deliberations."

6. Project evaluation and benefit-cost analysis

- Readings
 - Sen (2000) "The discipline of cost-benefit analysis"
 - Stokey and Zeckhauser (1978) *A Primer for Policy Analysis*, Ch. 9
- Assignment 5: Cost-Benefit analysis

7. Framework for policy analysis

- Readings
 - Bardach. (2011) *A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving*

8. New data sources: Big data, open data and APIs

- Readings
 - Williams et al. (2015) "The digital matatu project: Using cell phones to create an open source data for Nairobi's semi-formal bus system"
 - Boeing and Waddell (2017) "New Insights into Rental Housing Markets across the United States: Web Scraping and Analyzing Craigslist Rental Listings"
- Assignment 6: New data