

Queen's University School of Policy Studies

MPA 805: Quantitative Analysis

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Office Hours: Mondays 12:30 – 2:30

Overview

This is a course designed for graduate students who anticipate the future use of quantitative methods for policy analysis. The growing use of quantitative data in the development of public policy in healthcare, education, immigration, and many other areas is making data literacy a requirement in a growing number of positions. This is an introductory course and therefore a background in statistics is not assumed. In this course we will focus on the kinds of data and analysis that are common in the public sector. The three main goals of this course are:

- To provide the statistical background necessary to read and understand quantitative research.
- To give students the conceptual foundation necessary to learn more advanced techniques as required in the workplace.
- To teach practical skills in data analysis.

This course will enable you to perform many useful forms of analysis and give you the knowledge to avoid common errors.

Assignments

Topic	Date Available	Due Date
Data Sources and Graphical Representations	September 24	October 8
Hypothesis Testing	October 15	October 29
Linear Regression	November 12	November 26

Course Textbook

Meier, Kenneth, Jeffrey Brudney, and John Bohte. *Applied statistics for public and nonprofit administration*. Cengage Learning, 2015.

Evaluation

Assignments: 30%
Midterm Quiz: 20%
Participation: 10%
Final Exam: 40%

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Course Outline (Subject to Change)

Week	Topics
1	Measurement Types of Data Data Sources Graphical Representations
2	Measures of Central Tendency Measures of Dispersion
3	Introduction to Probability
4	Probability (Continued) Bayes' Theorem and Screening Tests
5	The Normal Distribution The T Distribution Confidence Intervals
6	Midterm Review MIDTERM QUIZ
7	Hypothesis Testing
8	Chi Square Test Contingency Tables Confounding and Effect Modification
9	Causality & Bias Linear Regression Introduction
10	Linear Regression Continued
11	Advanced Regression Models
12	Review and Final Exam