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

<table>
<thead>
<tr>
<th>Topic</th>
<th>Date Available</th>
<th>Due Date</th>
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</thead>
<tbody>
<tr>
<td>Data Sources and Graphical Representations</td>
<td>September 24</td>
<td>October 8</td>
</tr>
<tr>
<td>Hypothesis Testing</td>
<td>October 15</td>
<td>October 29</td>
</tr>
<tr>
<td>Linear Regression</td>
<td>November 12</td>
<td>November 26</td>
</tr>
</tbody>
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Course Textbook


Evaluation

Assignments: 30%
Midterm Quiz: 20%
Participation: 10%
Final Exam: 40%
### Course Outline (Subject to Change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
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</table>
| 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 |