GOVT 6029: Methods of Political Analysis II

Tues. and Thurs. 11:40am - 12:55pm (494 Uris Hall), Spring 2010

Instructor

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White Hall 205
Office Hours: Thursdays 1:30–3:30pm; and by appointment

Teaching Assistant: Phil Ayoub

Overview

GOVT 6029 is the second course in the Government Department’s quantitative methods sequence. I expect students to be familiar with basic statistical concepts such as probability theory, descriptive statistics, hypothesis testing, etc. Note: See Appendix A in the Gujarati & Porter text for a review of some basic statistical concepts.

The course begins with model building. Although we will only spend two weeks on statistical modeling, these concepts will motivate the topics of the rest of the semester. We will spend most of the semester studying regression analysis using Ordinary Least Squares. We will focus on the assumptions of OLS, evaluating when these assumptions are violated, and how to proceed when such violations occur. We will end the semester with an introduction to Time Series Analysis and Maximum Likelihood Estimation (MLE) with limited dependent variables. Hopefully, the short time we spend on these two topics will be sufficient to provide the intuition behind time series and MLE and the knowledge to interpret research which uses these methodologies. The time we spend will not, however, be sufficient to write conference papers and articles which use time series or logit/probit. You should expect to take a specific course on the subjects and/or do extensive reading on the topics before using these methodologies.¹

The course assignments consist of homework to help you practice the concepts and skills we cover in class and a research paper where you apply the skills you learn to a topic of substantive interest. I expect the research paper to be suitable for presentation at a professional conference, such as the Midwest Political Science Association Conference.

¹To use these methods prematurely might be analogous to Luke leaving Dagobah in the “Empire Strikes Back.”
Objectives:

By the end of this course students will be able to:

- construct theoretical models that explain interesting political or social phenomena.
- use OLS regression to evaluate the predictions which stem from theoretical models.
- perform diagnostic tests to evaluate regression analyses.
- write a quantitative research paper suitable for a professional conference.

Texts


Statistical Software

Class examples will use Stata. Government students can access Stata in the graduate computer lab. Additionally, Stata can be accessed through a CISER computing account. You can apply for this account at http://ciser.cornell.edu/athena_newacct.shtml.

Incomplete Policy

Taking an “incomplete” is not an option. I only grant an incomplete if extenuating circumstances emerge (e.g., serious illness) and we consult about the situation during the course of the semester.

Academic Integrity

Each student in this course is expected to abide by the Cornell University Code of Academic Integrity (http://cuinfo.cornell.edu/Academic/AIC.html). Any work submitted by a student in this course for academic credit will be the student’s own work.
Evaluation

Your performance in this class will be assessed by your class participation, homework assignments, and a final research paper. Each component of your grade will be weighted as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>5%</td>
</tr>
<tr>
<td>Homework</td>
<td>55%</td>
</tr>
<tr>
<td>Research Paper</td>
<td>40%</td>
</tr>
</tbody>
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Office Hours

- Thursdays, 1:30–3:30pm and by appointment

Readings and Assignments

I have listed the assigned readings below. *Complete the day’s reading before coming to class.* Readings followed by (BB) are available on blackboard. I may assign additional readings throughout the course. If you are using the 4th edition of Gujarati, the corresponding page numbers are listed in footnotes.

- **Week 1**
  - Tues. 1/26: Class Introduction
  - Thurs. 1/28: Causal Processes
    * The Case for Working with Your Hands ([http://www.nytimes.com/2009/05/24/magazine/24labor-t.html](http://www.nytimes.com/2009/05/24/magazine/24labor-t.html))

- **Week 2**
  - Tues. 2/2: Statistical Modeling
– Thurs. 2/4: A (very) Brief Introduction to Stata
  * James Stimson. “Professional Writing in Political Science: A Highly Opinionated Essay.” (BB)

• Week 3: Basic Regression
  – Tues. 2/9
    * Gujarati & Porter, Ch.3 (esp. 3.2 through end) & p.97-101
  – Thurs. 2/11

• Week 4: Multiple Regression I
  – Tues. 2/16
    * Paper Topic Proposal Due
    * Gujarati & Porter Chs.7 and 8
  – Thurs. 2/18

• Week 5: Multiple Regression II
  – Tues. 2/23
    * Gujarati & Porter Appendix B (Note: Take enough time to “make sense” of these 12 pages)
  – Thurs. 2/25

• Week 6: Interaction Terms
  – Tues. 3/2
    * Gujarati & Porter 288-290
  * Data Proposal Due
  – Thurs. 3/4

2p.107-112
3p.310–312
• Week 7: Multicollinearity
  – Tues. 3/9
    * Gujarati & Porter Ch.10
  – Thurs. 3/11

• Week 8: Heteroscedasticity
  – Tues. 3/16
    * Gujarati & Porter Ch.11
  – Thurs. 3/28

• Week 9
  – Tues. 3/23: NO CLASS – Spring Break
  – Thurs. 3/25: NO CLASS – Spring Break

• Week 10: Measurement Error and Specification Error
  – Tues. 3/30
    * Gujarati & Porter Ch.13 & Ch.14
  – Thurs. 4/1

• Week 11: Presenting Results
  – Tues. 4/6
  – Thurs. 4/8

• Week 12: Autocorrelation and Time Series Introduction
  – Tues. 4/13
    * Gujarati & Porter. Ch.12
– Thurs. 4/15
  * Gujarati & Porter Ch.17

● Week 13
  – Tues. 4/20: Time Series Continued
  – Thurs. 4/22: NO CLASS - MPSA Conference

● Week 14: Maximum Likelihood Estimation
  – Tues. 4/27
    * Gujarati & Porter Ch.15, p.102-106
  – Thurs. 4/29

● Week 15: Interaction Effects in Logit Models
  – Tues. 5/4
  – Thurs. 5/6: Last Class

● Monday, May 17: Research Paper Due

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\(^4\text{p.112–113 & 114–118}\)