advanced political data analysis

PSCI 7095.001  JENNIFER WOLAK
SPRING 2012  131C KETCHUM
TUESDAYS, 4:10 – 6:50 P.M.  wolakj@colorado.edu
KETCHUM 116  OFFICE HOURS: WEDNESDAYS, 1 - 3 P.M.

In this course, we will study how to statistically model political relationships. Our focus will be the linear regression model, building on what you learned in PSCI 7085: Introduction to Political Science Data Analysis. We will explore the properties and assumptions of ordinary least squares regression, as well as what happens when these assumptions are violated. We will consider how to see if these assumptions are met and what to do if they are not.

reading assignments

We will rely on two texts in this course. The first, by Gujarati and Porter, is a good econometrics textbook. The second text, by Kennedy, should be seen as a supplemental reader that is a bit more accessible and applied in nature. There are several additional course readings on the syllabus. Journal articles are accessible through the library’s website, while book chapters will be accessible through the course website.

The recommended texts by Wooldridge and Fox are alternatives to the Gujarati and Porter text. All three cover the same sorts of topics but sometimes in different sorts of ways, so you may find one of these to be more reader-friendly to you than the Gujarati and Porter text. It should be fine to substitute one of these for the Gujarati and Porter text, or you might choose to pick up one of these as a supplement to help clarify what might not be clear in the main text. The other recommended text by Baum is a useful practical guide for conducting econometric analysis within Stata.

It is recommended that you complete each week’s readings before that week’s class session. It is dense material that will take more time to read than you expect, so budget your time accordingly. Taking reading notes and rereading the material after class are both good practices to help you fully understand what is being covered in lecture.

REQUIRED TEXTS:


RECOMMENDED TEXTS:

Baum, Christopher F. 2006. An Introduction to Modern Econometrics Using Stata. College Station, TX: Stata Press.


D2L is your friend

This syllabus, assignments, data sets, and other exciting material can be accessed on the class website on learn.colorado.edu.

requirements

HOMEWORK AND PARTICIPATION (40% of your final grade)

You are expected to attend and actively participate in class.

Most weeks, you will also be responsible for a homework assignment designed to help you practice the skills learned in class. Some of these assignments will be written memos while others will be designed as problem sets. While you are welcome to consult with your classmates on the homework assignments, the final work that you turn in must be your own. Late homework assignments will not be accepted.

RESEARCH PAPER (40% of your final grade)

You will be responsible for developing a research paper based on OLS regression. In style, this paper should resemble the journal articles you have read in your classes. The research paper will be due the last week of the class. Additional guidelines will be detailed in a separate handout.

FINAL EXAM (20% of your final grade)

The final exam for the course will be a take-home exam, in a style that resembles the comprehensive exam in political methodology.

special accommodations

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. You can contact the Disability Services office for more information at www.colorado.edu/disabilityservices.

some important comments on academic integrity

- Plagiarism and other academic dishonesty will not be tolerated. If you are not familiar with the rules of citing sources in written work or what constitutes plagiarism, you should contact me or refer to the University Honor Code at honorcode.colorado.edu. Academic dishonesty will result in an F in the course and referral to the Honor Court for additional non-academic sanctions.

- All papers are expected to be original work, not previously or simultaneously handed in for credit in another course (unless prior approval of all instructors involved is obtained).
PSCI 7095 course schedule

1. INTRODUCTION TO THE COURSE
   Tuesday, January 17
   - Stimson, James A. "Professional Writing in Political Science: A Highly Opinionated Essay."

2. BIVARIATE REGRESSION
   Tuesday, January 24
   - Gujarati and Porter, Chapters 3, 4, and 5

3. MULTIPLE REGRESSION
   Tuesday, January 31
   - Gujarati and Porter, Chapters 7 and 8

4. MULTIPLE REGRESSION
   Tuesday, February 7
   - Gujarati and Porter, Appendix B and Appendix C

5. DUMMY VARIABLE REGRESSION, INTERACTION EFFECTS
   Tuesday, February 14
   - Gujarati and Porter, Chapter 9
   - Recommended: Kennedy, Chapter 15

6. INFLUENTIAL DATA POINTS, MULTICOLLINEARITY
   Tuesday, February 21
   - Gujarati and Porter, Chapter 10
   - Kennedy, Chapter 12

7. MODEL SPECIFICATION
   Tuesday, February 28
   - Gujarati and Porter, Chapter 13
   - Kennedy, Chapters 5 and 6

8. NONLINEARITY AND FUNCTIONAL FORM
   Tuesday, March 6
   - Gujarati and Porter, Chapter 6 (sections 6.4-6.9) and Chapter 14
9. HETEROSKEDASTICITY  
   Tuesday, March 13  
   - Gujarati and Porter, Chapter 11  
   - Kennedy, Chapter 8  

10. SERIAL CORRELATION  
   Tuesday, March 20  
   - Gujarati and Porter, Chapters 12 and 17  
   - Kennedy, Chapter 10  

SPRING BREAK  
   Tuesday, March 27  

11. PANEL DATA  
   Tuesday, April 3  
   - Gujarati and Porter, Chapter 16  
   - Kennedy, Chapter 18  

12. SIMULTANEOUS EQUATIONS  
   Tuesday, April 10  
   - Gujarati and Porter, Chapters 18-20  
   - Kennedy, Chapter 11  

13. THE LINEAR PROBABILITY MODEL  
   Tuesday, April 17  
   - Gujarati and Porter, Chapter 15  
   - Kennedy, Chapter 16  

14. DICHOTOMOUS DEPENDENT VARIABLES  
   Tuesday, April 24  
   - Gujarati and Porter, Chapter 15  

15. CATEGORICAL AND LIMITED OUTCOME VARIABLES  
   Tuesday, May 1  
   - Kennedy, Chapter 17