

# POLITICAL SCIENCE /150C, IPS 350C: POLITICAL METHODOLOGY III

## Contact information

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## Times and Locations

Lectures: MW 0900-1050, Room 205 in Building 200  
Sections: TBA

## Prerequisites

Polisci 350A (probability and statistics) or equivalent.  
Polisci 350B (linear models) or equivalent.

## Requirements

Bi-weekly problem sets  
Final Exam

## Texts

The texts are listed here in (approximately) ascending difficulty. Wooldridge and Cameron-Trivedi are the primary texts; the others are suggested.

- Jeffrey Wooldridge. 2005. *Introductory Econometrics : A Modern Approach*. 3rd edition. South-Western College Publishers.
- David Freedman. 2005. *Statistical Models : Theory and Practice*. Cambridge University Press.
- A. Colin Cameron and Pravin K. Trivedi. 2005 *Microeconometrics : Methods and Applications*. Cambridge University Press. [referred to as **C&T**]
- Gelman, Carlan, Stern and Rubin. *Bayesian Data Analysis*. 2nd edition. Chapman & Hall/CRC.

## Course outline and readings

### 1. INTRODUCTION AND OVERVIEW (April 5)

*Illustrations of types of questions and topics which are related to this course.*

- Freedman 1
- C&T Ch 2, 3

### 2. DISCRETE CHOICE MODELS (April 10 and 12)

*Derivation of mathematical models of utility maximizing choice.*

- Freedman Ch 6
- Wooldridge Ch 17.1
- C&T Ch 14

### 3. MAXIMUM LIKELIHOOD (April 17)

*Estimation and inference, some asymptotics; examples with discrete choice models.*

- C&T Ch 5, 7, 10

### 4. INSTRUMENTAL VARIABLES AND ENDOGENEITY (April 19)

- Wooldridge, ch. 15.
- C&T, chap. 4.8–4.10.

### 5. INTRODUCTION TO SIMULTANEOUS EQUATIONS MODELS (April 24)

- Wooldridge, ch. 16.
- C&T, chap. 6.9.

### 6. THE IDENTIFICATION PROBLEM (April 26)

- Lecture notes.

### 7. TWO-STAGE LEAST SQUARES (May 1)

- Wooldridge, ch. 16.

### 8. CAUSAL INFERENCE (May 3 and 8 )

*Potential outcomes framework, matching, RDD, IV/LATE.*

- C&T Ch 25

### 9. CENSORING, TRUNCATION, AND SELECTION MODELS (May 10)

- Wooldridge 17.4–17.5
- C&T Ch 16

10. AGGREGATE CHOICE (May 15)  
*Models of counts, binomial, poisson, ...*
  - C&T Ch 20
11. GENERALIZED MODELS OF CHOICE: MULTIPLE CHOICE, DURATION (May 17)  
*Multinomial logit, GEV, Ordered logit, hazard models.*
  - C&T Ch 15, 17, 19
12. PANEL DATA (May 22)
  - Wooldridge 13
  - C&T Ch 21
13. RANDOM EFFECTS AND SPECIFICATION TESTS (May 25)
  - Wooldridge 14
  - C&T Ch 22
14. INTRODUCTION TO BAYESIAN THEORY (May 31)
  - C&T, chap. 13.1–13.3
  - Gelman et al., ch. 1–2.
15. MARKOV CHAIN MONTE CARLO (June 5)
  - C&T, chap. 13.4–13.6.
  - Gelman et al., ch. 11.
16. HIERARCHICAL BAYES (June 7)
  - Gelman et al., ch. 5, 15.

Note: No class on Memorial Day (May 29)