

## **Political Science 208: Political Science Methods**

Emory University, Spring 2011

Math and Science Center E208

MW 2:30-3:45p, F 2:30-3:45p lab sessions

August 29, 2011

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### **Course Description & Objectives**

This is a course on social science research methods. It is a required course for majors in Political Science or International Studies who declared after August 2007, and the department recommends that students take this course during their first two years to prepare themselves for upper-level coursework. This course is designed to introduce students to (a) the style of analytic thinking required for research in the social sciences; (b) the concepts and procedures used in the conduct of empirical research in political science; and (c) the use of computers for analysis of quantitative social science data. The objective is to give you a foundation in research design and empirical methods. At the end of this course, you should be (a) a more analytical student of public affairs, (b) a more informed reader of the research you will encounter in later Political Science classes, and (c) better-prepared for a career using statistical tools and the products thereof, and for the additional coursework such a career will require.

Specifically, this course covers the principles of the scientific method applied to the study of politics, and then emphasizes an approach to understanding politics that uses generalizing theory and testable hypotheses. The course then moves on to address critical considerations in designing empirical tests of theories about political phenomena, such as the issue of sample selection, concept definition and measurement, and types of data collection. The remainder of the course focuses on a variety of techniques for analysis of quantitative political data, from simple descriptive statistics and graphs, to tests of bivariate association, to multivariate regression and logit and probit analysis. Multivariate regression (using the *generalized linear model*) is the dominant technique for analysis of statistical data in the social sciences, and we will cover variations on that method in some detail in the last month of the course.

This is an *applied* course. It draws on dozens of real political applications and research examples when introducing each concept and technique. The course emphasizes practice (e.g., choice of appropriate statistical procedure, diagnostics, interpretation) over theory (mathematical derivations and proofs). You do not need any more math background than high school algebra for this course, although having had a prior course on probability may help out at a few points. Along the way, the course will cover practical issues like how to use statistical software, which tests to use for different kinds of problems, and how to interpret the sometimes conflicting and confusing results reported in journals. For statistical software, we will use *Stata*, a popular package among political scientists. It is installed on many Emory computers and you can purchase it cheaply for use at home or on a laptop as well (see below).

## Requirements

Grades in the course will be based on the following items:

%	Graded Item	Description
20	Exam One	In-class, on 9/28
15	Homework	7 take-home assignments, due by start of relevant lab session
20	Exam Two	In-class, on 10/31; cumulative with emphasis on material since Exam One
20	Final Exam	In-class, during the slot assigned for this class (12/8); cumulative with emphasis on material since Exam Two
25	Research paper	Rough Draft Due 11/23 Final Draft Due 12/12

The homeworks will be submitted in hard copy to the TA supervising the lab session on the due date indicated in the syllabus. I cannot accept late homeworks. Exceptions for serious illness or family emergency may be made under some circumstances (see late work section below), but will require permission from the instructor.

The research paper assignment consists of a 15-20 page paper analyzing data from one of the datasets provided for this course by the instructors. Choose a topic, develop a hypothesis, test it quantitatively, and interpret your results appropriately. The guidelines for the paper, along with a short list of topics from which you must choose the subject of your paper, will be distributed separately. In brief, your paper will include:

1. A statement of the research question and an explanation of its relevance
2. An explanation of your theory and a statement of the specific hypotheses to be tested
3. Descriptions of the sample and variables included in the analysis
4. Presentation of methods and results, including relevant tables and figures attached at the end
5. Consideration of alternative interpretations of your findings, with sensitivity or robustness tests
6. Discussion and conclusions

A rough draft of the paper will be due on November 23rd (immediately before the Thanksgiving break). Failure to turn in the rough draft on time will result in a 5 percentage point deduction from the final grade.

Each day the paper is late will result in a drop of a 5 percentage points (from 95% to 90%, and so on).

## Friday Sessions

To facilitate review of exams and homeworks, our class will meet at the specified times on Friday in a lab session. Attendance of Friday labs is optional but recommended, **except for September 30<sup>th</sup> which is a mandatory meeting.** Please set the Friday time slot aside for this course. The dates and times for Friday lab sessions are listed in the course outline below.

## TA Support: Review Sessions and Office Hours

There are three teaching assistants assigned to this class: Andrew Pierce, Andrew Ratto (aratto@emory.edu), and Caitlin Ainsley. One TA will hold a special review session on occasional

Fridays from 2:30-3:45 PM in MSC E208 (the normal room for the course). This review session will be your time to review lecture material, ask questions about homework assignments, review for an upcoming exam, and get feedback on graded homeworks and exams.

Each TA will also hold an additional office hour per week that you may use to seek one-on-one assistance with homework assignments, the research paper, or course content that you're having difficulty understanding. The time and location of these office hours will be announced on the first day of class.

Two TAs will hold **special computer office hours** in a computer classroom on **Mondays and Wednesdays from 4:30p-5:30p in Woodruff Library Room 314**. These computer office hours are in addition to the two weekly office hours noted above and are primarily designed for students seeking help with computer-related homework assignments. There may be additional computer office hours later in the semester; see the course Blackboard site for announcements. During those times, you will be able to use that room's computers to do your homework assignments and, when necessary, ask the staff for statistical computing assistance related to this course. Note that the computer lab session on September 21<sup>st</sup> is cancelled.

Woodruff Library also houses the Electronic Data Center, directed by Robert O'Reilly. The Center provides electronic datasets for social science research and courses here at Emory. See its web site, <http://einstein.library.emory.edu/>. The assignments for this class, however, do not require use of datasets obtained from the Center, as we provide them all directly to you on the course Blackboard site. For more information about the Data Center's policies, contact its staff at 404-727-6129 or at [roreill@emory.edu](mailto:roreill@emory.edu).

## Tutoring

Students who need assistance beyond the normal support of office hours and TA assistance may take advantage of one-on-one peer tutoring through EPASS. Tutors working for EPASS are former 208 students who have performed well and are available to help you master the course material. For information on the program and to set up an appointment, consult the following link:

<http://www.college.emory.edu/home/academic/learning/tutoring/index.html>

## Grading Scale

100-93%: A	76.9-73%: C
92.9-90%: A-	72.9-70%: C-
89.9-87%: B+	69.9-67%: D+
86.9-83%: B	66.9-60%: D
82.9-80%: B-	>59.5%: F
79.9-77%: C+	

## Courtesy

To ensure that everyone has the opportunity to learn without undue distraction, please follow the following guidelines.

- 1) **Turn off your cell phone** (or put it into silent mode).
- 2) **Do not talk** during class unless called upon by the instructor.
- 3) **Do not read newspapers or magazines (including on the web)** during class.
- 4) **Do not enter class late or leave it early** unless it's an emergency and/or you've cleared it with me in advance.
- 5) **Laptops are prohibited**, except during a class when we are doing Stata examples together. During these Stata classes, leave the lid of your laptop closed until we begin the examples.

If you violate these rules, I may ask you to leave the classroom. I reserve the right to penalize your grade for repeated inappropriate behavior, up to and including permanent removal from the class.

## Attendance

Attendance is mandatory in this class. No points are deducted on the basis of an absence alone; however, anything I teach in class is testable material, and not everything I teach in class will be in the course reading material.

## Late Work

Missed exams may be re-taken under the following circumstances only:

- 1) Death in the immediate family (parent, spouse, sibling, or child) within 2 weeks before the exam.
- 2) Unforeseeable medical emergency affecting yourself, your spouse, or your child (something beyond feeling under the weather---car accident, major sickness, or the like).
- 3) Participation in an official Emory-sponsored academic or sporting event.

In the case of reasons (1) or (3), **you must give me at least 24 hours advance notice** (such as an e-mail or phone call) that you will miss the exam or it may not be made up. I may require supporting documentation. **Conflicts with a work schedule and leaving for a non-academic trip or vacation are not an excuse to miss an exam or any other assignment in this class**; I suggest that you consult the course schedule in advance and drop the course if you cannot be present for the classes and assignments.

**I cannot accept late homeworks.** Exceptions under the conditions above may be made, but will require at least 24 hours advance permission from the instructor.

Each day the research paper is late will result in a drop of 5 percentage points, e.g., 95% to a 90%, etc.

**All work is late if submitted after the date and time specified as the due date, even if only one minute late.** The number of days late is counted from the due date and time. To ensure fairness (particularly in a large class), this policy will be strictly enforced.

## Academic Misconduct

Cases of plagiarism on the research paper and other forms of academic misconduct (e.g., cheating on exams) will be handled according to the Emory University Honor Code, available on-line at [http://www.college.emory.edu/current/standards/honor\\_code.html](http://www.college.emory.edu/current/standards/honor_code.html).

Please pay special attention to the definition of plagiarism on the Emory Honor Code web site at the link above. You may also find the Emory Writing Center's site on "Avoiding Plagiarism" helpful; this site is found at <http://www.writingcenter.emory.edu/plagiarism.html>.

**If you ever have any questions about whether or how material should be cited, PLEASE contact me with your question and I can assist you.** I cannot guarantee a timely response unless you *contact me at least 24 hours in advance* of the time the assignment is due.

## Students with Disabilities

Emory University complies with the regulations of the Americans with Disabilities Act of 1990 and offers accommodations to students with disabilities. All students with special requests or need for accommodations should make this request to Prof. Esarey as soon as possible.<sup>1</sup>

Documentation from the Emory Office of Disability Services is required; see <http://www.ods.emory.edu/students.htm> for more details.

## Required Materials

There are two textbooks for this class:

- Paul M. Kellstedt and Guy D. Whitten. *The Fundamentals of Political Science Research* (Cambridge: Cambridge University Press, 2009).
- Philip H. Pollock III, *A Stata Companion to Political Analysis, 2<sup>nd</sup> edition* (Washington, DC: CQ Press, 2011).

These books are available in the Emory bookstore. All other readings on the syllabus can be found in the Woodruff Reserves system for this course.

We will also use a statistical computer program called *Stata*. It is available on computers located around campus, including the Cox Hall computing lab as well as Woodruff Library. There are many statistical computing programs used by researchers in the social sciences, but *Stata* is in common use by political scientists today. You will be learning how to operate this program, which could prove useful for your research in subsequent Political Science or Economics courses.

**I strongly recommend that you purchase *Stata* for your laptop and bring your laptop to classes where we will be using *Stata* (indicated on the course outline below).** In these classes, you will have a much easier time doing the homework if you have followed along with the commands I use in class on your

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<sup>1</sup> This statement is quoted from the Office of Faculty Resources for Disabilities website at <http://www.portals.emory.edu/sylideas.html>.

own computer. I have made provisions for you to purchase Stata at a discount (less than \$100 for a one-year license). To obtain the discount, you must call the Stata Corporation at 800-782-8272, saying that you are part of the GradPlan for Emory University; or go to <http://www.stata.com/order/new/edu/gradplans/gp-campus.html>. (You want a six-month license for Stata/IC 12 unless you anticipate using Stata for a Senior Honors Project or other research; in that case, you may wish to purchase an annual or perpetual license.) We will begin using Stata on September 30, so obtain your copy of the software before that time.

For students who do not own laptops, we have 5 laptops that the T/A will set up for Stata classes that you can use. *Please contact me at the start of the semester if you will need to use one of these laptops*; those who contact me in advance will have a laptop reserved for them.

## Course Outline

\* denotes computer class—bring your laptop with Stata

8/24 (W): First meeting. Introduction/syllabus review. What is this class good for?

8/29 (M): What is science? Is social science really science?

- Kellstedt and Whitten, Ch. 1
- Andrew Ehrenberg, “Even the Social Sciences Have Laws.” *Nature* 365 (September 30, 1993): p. 385.

<http://www.nature.com/nature/journal/v365/n6445/pdf/365385a0.pdf>

8/31 (W): Research questions, theories, concepts, and hypotheses

- Kellstedt and Whitten, Ch. 2
- Charles A. Lave and James G. March, *An Introduction to Models in the Social Sciences* (New York: Harper & Row, 1975), 9-42.

9/5 (M): **Labor Day – No Class**

9/7 (W): Research design I: the logic of experimentation and causal inference

- Kellstedt and Whitten, Ch. 3 and Ch. 4 through p. 76
- Joel Turner, “The Messenger Overwhelming the Message: Ideological Cues and Perceptions of Bias in Television News,” *Political Behavior* 29 (December 2007): 441-464. <http://www.springerlink.com/content/x3852xp2n2273416/>
- Alan S. Gerber and Donald P. Green, “Do Phone Calls Increase Voter Turnout? A Field Experiment,” *Public Opinion Quarterly* 65 (Spring 2001)
- *Optional*: Todd R. Stinebrickner and Ralph Stinebrickner, “The Causal Effect of Studying on Academic Performance,” NBER Working Paper 13341 (August 2007)
- **Homework #1** distributed

9/12 (M): Research design II: non-experimental large-*N* designs

- Kellstedt and Whitten, Ch. 4
- Jeffrey S. DeSimone, “Fraternity Membership and Drinking Behavior,” NBER Working Paper 13262 (July 2007)
- James Fowler, “The Colbert Bump in Campaign Donations: More Truthful than Truthy,” *PS: Political Science and Politics* 41 (July 2008): 533-539.

<http://journals.cambridge.org/action/displayAbstract?aid=1905616>

- 9/14 (W): Research design III: non-experimental small-*N* designs, case selection and inference
- Ashutosh Varshney, “Ethnic Conflict and Civil Society: India and Beyond,” *World Politics* 53 (April 2001), 362-398, esp. 370-374
- 9/16 (F): Lab Session: Q and A for Homework #1
- **Homework #1** due and **Homework #2** distributed
- 9/19 (M): Measurement: levels of measurement, reliability, and validity
- Kellstedt and Whitten, Ch. 5
  - Jeffrey A. Segal and Albert D. Cover, “Ideological Values and the Votes of US Supreme Court Justices,” *American Political Science Review* 83 (June 1989), 557-564
  - Joel Best, *Damned Lies and Statistics* (Berkeley: University of California Press, 2001), 30-61
- 9/21 (W): Data collection: tradeoffs in observational techniques
- Johnson and Reynolds, *Political Science Research Methods 6<sup>th</sup> ed.*, Chs. 8-9 (pp. 243-296).
  - Richard F. Fenno, Jr., “Observation, Context, and Sequence in the Study of Politics,” *American Political Science Review* 80 (March 1986), 3-15
- 9/23 (F): Lab session: Review Session for Exam One, and Q and A for Homework #2
- **Homework #2** due
- 9/26 (M): Clean-up of Missed Material and/or Review for Exam One
- 9/28 (W): **Exam One**
- 9/30 (F): Lab session: Introduction to Stata and Q and A for Exam 1\*
- Pollock, “Getting Started” and Ch. 1
- 10/3 (M): Survey design and sampling issues
- Manheim, Rich, and Willnat, *Empirical Political Analysis*, Ch. 6 and 7
- 10/5 (W): Descriptive statistics and graphs I\*
- Kellstedt and Whitten, Ch. 6
  - Pollock, Ch. 2-4
  - **Homework # 3** distributed
- 10/10 (M): **Fall Break – No Class**
- 10/12 (W): Descriptive statistics and graphs II\*
- Same as Descriptive Statistics I
- 10/14 (F): Lab session: Q and A for Exam One and Homework #1
- Exam 1 appeals due
  - **Homework # 3** due and **Homework # 4** distributed
- 10/17 (M): Probability distributions and sampling
- Kellstedt and Whitten, Ch. 7

- 10/19 (W): Basic hypothesis testing\*
- Kellstedt and Whitten, Ch. 8 up to p. 139, plus pp. 145-150
  - Pollock, Ch. 5-6
  - Jeffrey J. Mondak, "Newspapers and Political Awareness," *American Journal of Political Science* 39 (May 1995); see especially pp. 523-525, for a two-sample t-test.
- 10/21 (F): Required lab session: Using a codebook, and Q and A for Homework #2
- Data and Statistical Services, Princeton University, "[How to Use a Codebook.](#)"
  - **Homework #4** due and **Homework #5** distributed
- 10/24 (M): Crosstabs and the chi-squared test\*
- Kellstedt and Whitten, Ch. 8 pp. 139-145
  - Pollock, Ch. 7
  - Alan S. Gerber and Donald P. Green, "Do Phone Calls Increase Voter Turnout? A Field Experiment," *Public Opinion Quarterly* 65 (Spring 2001); see especially p. 79 for data for a chi-squared test or two-sample test of a proportion.
- 10/26 (W): Correlation\*
- Kellstedt and Whitten, Ch. 8 pp. 150-157
  - Pollock, Ch. 8 through p. 160
  - Amy Caiazza, "Does Women's Representation in Elected Office Lead to Women-Friendly Policy?" Institute for Women's Policy Research Publication I910 (May 2002).
- 10/28 (F): Lab session: Review for Exam Two with Q and A for Homework #3
- **Homework #5** due
- 10/31 (M): **Exam Two**
- 11/2 (W): Regression I: theory and basics\*
- Kellstedt and Whitten, Ch. 9 up to p. 165
  - Pollock, Ch. 8
  - **Homework # 6** distributed
- 11/7 (M): Regression II: inference, multiple regression, and interpretation \*
- Kellstedt and Whitten, Ch. 9 pp. 165-177, Ch. 10 Section 10.7 (starting on p. 198), and Ch. 11 section 11.5 (starting on p. 220)
  - Alan Abramowitz, "Forecasting the 2008 Presidential Election with the Time-for-Change Model," *PS: Political Science and Politics* 41 (October 2008): pp. 691-695.  
<http://journals.cambridge.org/action/displayAbstract?aid=2315772>
- 11/9 (W): Regression III: categorical explanatory variables\*
- Kellstedt and Whitten, Ch. 11 up to p. 212
  - Pollock, Ch. 9 through p. 164
  - John J. Donohue III and Steven D. Levitt, "The Impact of Legalized Abortion on Crime," *The Quarterly Journal of Economics* 46 (May 2001), 379-420.  
<http://pricetheory.uchicago.edu/levitt/Papers/DonohueLevittTheImpactOfLegalized2001.pdf>
- 11/14 (M): Regression IV: assumptions underlying regression\*
- Kellstedt and Whitten, Ch. 9 pp. 177-182



- 11/16 (W): Writing an Empirical Research Paper in Political Science
- Gary King, "Publication, Publication," *PS: Political Science and Politics* 36, 119-125. Link: <http://gking.harvard.edu/files/paperspub.pdf>.
- 11/18 (F): Required lab session: Q and A for Homework #4
- **Homework # 6** due and **Homework #7** distributed
- 11/20 (M): Logit and probit models I: regression using discrete dependent variables\*
- Kellstedt and Whitten, Ch 11 pp. 212-220
  - Pollock, Ch. 10 up to p. 200
  - G. S. Maddala, *Introduction to Econometrics*, 2<sup>nd</sup> ed. (New York: Macmillan, 1992), 327-338
  - Hanushek and Jackson, 187-9, 204-7 (see online reserves)
- 11/23 (W): Logit and probit models II: plotting and interpreting marginal effects\*
- Pollock, Ch. 10 pp. 200-208
  - J. Scott Long and Jeremy Freese, *Regression Models for Categorical Dependent Variables Using Stata*, 2<sup>nd</sup> Ed., pp. 157-177.
  - D. Sunshine Hillygus and Todd G. Shields, "Moral Issues and Voter Decision Making in the 2004 Presidential Election," *PS* (April 2005), 201-209
  - **Rough draft of research paper due**
- 11/28 (M): Logit and probit models III: the ordered probit and applications\*
- J. Scott Long and Jeremy Freese, *Regression Models for Categorical Dependent Variables Using Stata*, 2<sup>nd</sup> Ed., pp. 183-192.
  - John T. Scholz and Mark Lubell, "Trust and Taxpaying: Testing the Heuristic Approach to Collective Action." *American Journal of Political Science* 42 (1998), 398-417. Link: <http://goo.gl/5y3iJ>.
- 11/30 (W): Regression problems: model specification/non-linearity, multicollinearity, endogeneity, and selection bias
- Kellstedt and Whitten, Ch. 11 pp. 225-233
  - Barbara Geddes, "How the Cases You Choose Affect the Answers You Get: Selection Bias in Comparative Politics," *Political Analysis* 2 (1991), 131-150.
  - **Homework #7** due
  - **Research paper rough drafts returned**
- 12/5 (M): Clean-up of Missed Material and/or Review for Final Exam
- 12/8 (R): **Final exam**, 8:30-11:00a
- 12/12 (M): **Research paper final draft due**, 5:00p

## Syllabus Change Policy

The policies of this syllabus may be changed by Prof. Esarey with advance notice.