

## **Proposed New Undergraduate Class: Experimental Methods in Political Science**

### Course Description

This course is designed to provide an introduction to experimental methods in political science for undergraduate students. The emphasis of the course will be on several different styles of laboratory experiments, but field experiments (and briefly, survey experiments) will also be discussed.

Experimental methods have become an increasingly important tool for political scientists. What are the potential strengths and weaknesses of different kinds of experiments relative to other research methods, such as surveys or statistical analyses of real-world data? What sorts of things can we hope to learn from experiments? And what are some of the important methodological issues that must be considered in designing effective experimental tests of theories? During the course of the semester, we will address all of these questions. By the end of the semester, students should not only have read a broad selection from the experimental literatures in political science, but also gained specific insights into experimental design.

While the purpose of the course is primarily methodological, there is no better way to get a feel for how experiments work than to read experimental literatures from different fields. The experiments that we will discuss during the course of the semester will fall into three main categories: political economy (tests of theories of institutional structure, voting rules, and related topics); political psychology (exploring topics such as persuasion, political attitudes, and the processing of political information); and foundational issues (tests of the decision- and game-theoretic foundations that underlie most rational choice and formal work in political science). We will also engage in some in-class experiments as we read through the literature.

### Prerequisites

Students should have completed either V53.0800, Quantitative Methods in Political Science, or an equivalent statistics course in another discipline and a course in game theory (either V53.0840 or V53.0844 or an equivalent such course in another discipline).

### Texts

Morton, Rebecca B. and Kenneth Williams, *Experimental Methods in Political Science*, manuscript

Kinder, Donald and Thomas Palfrey. 1993. *Experimental Foundations of Political Science*. University of Michigan Press.

Friedman, Daniel and Shyam Sunder. 1994. *Experimental Methods: A Primer for Economists*, Cambridge University Press.

Salsburg, David. 2002. *The Lady Tasting Tea: How Statistics Revolutionized Science in the Twentieth Century*, 2<sup>nd</sup> edition, Owl Books.

Kagel, John H. and Alvin Roth. 1997. *Handbook of Experimental Economics*, Princeton University Press.

Optional reference books on statistics and game theory:

Hill, R. Carter, William E. Griffiths, George C. Judge. 2000. *Undergraduate Econometrics*, Wiley.

Kmenta, Jan. 1997. *Elements of Econometrics*, 2<sup>nd</sup> Edition, University of Michigan Press.

Dixit, Avinash and Susan Skeath. 1999. *Games of Strategy*. W.W. Norton & Company.

Osborne, Martin. 2004. *An Introduction to Game Theory*. Oxford Univ. Press.

### Grades

There will be an in class midterm and non-cumulative final exam. You will also be expected to submit an experimental design two weeks before classes end. The design must provide a detailed, and plausible, scheme for an experiment that address a specific political research question of the student's choosing (with prior approval of the instructor before the midterm exam). The design (along with a brief literature review and other necessary background materials) will typically run about 10-20 pages in length. Depending on time constraints, we will conduct some or all of the experiments in class during the last two weeks of the semester and the class as a whole will critique the designs. Grades on late assignments will be reduced 5% per day. You will also be graded on class participation, evidence of reading material assigned in advance, and your discussion of the experimental designs of your colleagues. Make-up exams will not be available for students who fail to notify me in advance of missing an examination, nor for students without an acceptable explanation and, if necessary, documentation.

Grades will be computed on the following basis:

Experimental Design	30%
Class Participation	10%
Midterm Exam	30%
Final Exam	30%

### Tentative Course Schedule

Topic 1 – What is experimentation? What is not experimentation?

We will discuss the fundamentals of experimentation: manipulation, control, and random assignment and the variation in the use of these fundamentals across the discipline. Discussion of the difference between experiments and simulations. Importance of the design process in an experiment. Discussion of the concept of a “natural experiment” and the history of experimentation.

Reading Assignments:

Morton, Chapter 1

Salsburg, entire book

Kagel, chapter 1, pages 26-34

Friedman, chapters 1 and 3

Topic 2 – History of Experiments in Political Science

Kinder, chapter 1

Kagel, chapter 1, pages 3-20

Salsburg, entire book

Morton, Chapter 2

Friedman, Chapter 9

Topic 3 -- Types of Experiments in Political Science

We will discuss the differences between laboratory, field, and survey experiments and the different audiences for different types of experiments.

Morton, Chapter 3

Kagel, chapter 1, pages 21-23

McDermott. 2002. “Experimental Methodology in Political Science,” *Political Analysis* 10(4): 325-342.

Gerber and Green. 2002. “Experiments in Political Science,” in Katznelson and Milner, editors, *Political Science: The State of the Discipline*, Norton.

Wantchekon. 2003. “Clientelism and Voting Behavior: A Field Experiment in Benin.” NYU Typescript.

#### Topic 4 – Theory Testing and Experiments – Classic Cases

Discussion of the differences between formal theory testing and psychological theory testing. Advantages of experiments over using naturally occurring data. Role of Scripts and internal validity. Discussion of analogy to “structural estimation”. Examples of classic game theoretic experiments, with particular emphasis on public good games.

Friedman, Chapter 2

Morton, Chapter 4

Kagel, Chapter 1, pages 35-110, chapter 2

Palfrey: "Conflict Between Private Incentives and the Common Good" in Kinder

Isaac, Walker, and Thomas: "Divergent Evidence on Free Riding" in Kinder

Dawes, Orbell, Simmons and Van de Kragt: "Organizing Groups" in Kinder

Ferejohn, Forsythe, Noll, and Palfrey. “An Experimental Examination of Auction Mechanisms for Discrete Public Goods” in Kinder

#### Topic 5 – Theory-Driven Fact Finding and Experiments

Discussion of how experiments can move from testing theory to discovering “new facts”.

Reading Assignments:

Morton, Chapter 5

Andreoni, James. 1995. “Cooperation in Public-Goods Experiments: Kindness or Confusion,” *American Economic Review*, vol. 85, no. 4, pages 891-904.

Roth, et al. 1991. “Bargaining and Market Behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: An Experimental Study,” *American Economic Review*, vol. 81, no. 5, pages 1068-1095.

Bolton, 1998. “Bargaining and Dilemma Games: From Laboratory Data Towards Theoretical Synthesis,” *Experimental Economics*, 1:257-281.

Roth, Chapters 3 and 4

#### Topic 6 – Experiments on “Not So Classic” Games & Rationality Assumptions

Discussion of theory experiments on special games that aren't obviously capturing reality but can be strong tests of theoretical concepts such as the centipede game and the beauty contest game. Discussion of experiments testing rationality assumptions.

Readings Assignments:

Morton, Chapter 6

Nagel, R., (1995), "Unravelling in Guessing Games: An Experimental Study", *American Economic Review*, 85, 1313-1326.

Ho, T. H., Camerer, C. and Weigelt, K., (1998), "Iterated dominance and iterated best response in experimental "p-beauty contests"", *American Economic Review*, 88, 947-969

Roth, Chapter 8

Topic 7 – Theory Testing and Experiments in Political Science, First Generation

First generation of formal theory in political science focused on predictions that came from cooperative game theory and social choice theory. Experimental analysis of these models helped lead to more applied formal theory using noncooperative game theory.

Reading Assignments:

Morton, Chapter 7

McKelvey, Richard D. & Peter C. Ordeshook, 1990, "A Decade of Experimental Research on Spatial Models of Elections and Committees," in James M. Enelow & Melvin Hinich, eds., *Advances in the Spatial Theory of Voting*, Cambridge: Cambridge U. Press.

"Voting Games and Computational Complexity," Glenn W. Harrison & Tanga McDaniel, working paper

Palfrey. "Agendas and Decisions in Government" in Kinder

Fiorina and Plott. "Committee Decisions under Majority Rule: An Experimental Study" in Kinder

Eavey and Miller, "Bureaucratic Agenda Control" in Kinder

Topic 8 – Theory Testing and Experiments in Political Science, Second Generation

Second generation of formal theory in political science focuses on predictions that come from more applied, noncooperative game theoretic models. Of particular interest are experiments on turnout and voting games.

Reading Assignments:

Morton, Chapter 8

Schram and Sonnemans, *International Journal of Game Theory*, 1996.

Schram & Sonnemans in *Journal of Economic Psychology*, 1996

Frechette, Kagel, and Lehrer. May 2003. "Bargaining in Legislatures: An Experimental Investigation of Open versus Closed Amendment Rules." *American Political Science Review* 97(2):221-232.

Guarnaschelli, McKelvey, and Palfrey. June 2000. "An Experimental Study of Jury Decision Rules." *American Political Science Review* 94(2):407-424.

Morton and Williams. 1999. "Information Asymmetries and Simultaneous versus Sequential Voting." *American Political Science Review* 93(1).

Morton. 1993. "Incomplete Information and Ideological Explanations of Platform Divergence." *American Political Science Review* 87:382-392.

Forsythe, Rietz, Myerson, and Weber. 1996. "An Experimental Study of Voting Rules and Polls in Three-Candidate Elections." *International Journal of Game Theory* 25:355-383.

Topic 9 – Theory Testing and Political Psychology

Discussion of experiments designed to evaluate theories arising out of political psychology and differences between these and those testing formal models.

Reading Assignments:

Morton, Chapter 9

Lodge and Hamill. "A Partisan Schema for Political Information Processing" in Kinder.

Quattrone and Tversky. "Contrasting Rational and Psychological Analyses of Political Choice" in Kinder.

Mutz. March 2002. "Cross-Cutting Social Networks: Testing Democratic Theory in Practice." *American Political Science Review* 96(1):111-126.

Redlawsk. November 2002. "Hot Cognition or Cool Consideration? Testing the Effects on Motivated Reasoning on Political Decision Making." *Journal of Politics* 64(4):1021-1044.

Druckman. November 2001. "On the Limits of Framing Effects: Who can Frame?" *Journal of Politics* 63(4):1041-1066.

Nelson and Oxley. November 1999. "Issue Framing Effects on Belief Importance and Opinion." *Journal of Politics* 61(4):1040-1067.

Nelson and Kinder. November 1996. "Issue Frames and Group-Centrism in American Public Opinion." *Journal of Politics* 58(4):1055-1078.

Quattrone, George A. & Amos Tversky, "Contrasting Rational and Psychological Analyses of Political Choice," *American Political Science Review* 82, 3, Sept. 1988, pages 720-36.

Taber, Charles & Milton Lodge, "Motivated Skepticism in the Evaluation of Political Beliefs," 2000

Huddy, Leonie & Nayda Terkildsen, "Gender Stereotypes and the Perception of Male and Female Candidates," *American Journal of Political Science*, 37, 1 (Feb. 1993), 119-147.

Iyengar, Peters, and Kinder, "Experimental Demonstrations of the 'Not-So-Minimal' Consequences of Television News Programs" in Kinder.

Valentino, Hutchings, and White. March 2002. "Cues that Matter: How Political Ads Prime Racial Attitudes During Campaigns." *American Political Science Review* 96(1):75-90.

Ansolabehere, Iyengar, Simon, and Valentino. December 1994. "Does Attack Advertising Demobilize the Electorate?" *American Political Science Review* 88:829-838.

## Topic 10 – More on Scripts in Experiments

Scripts (instructions in experiments) provide descriptions of players, action choices, and possible payoffs. In formal theory experiments these are very detailed and players "enact" the scripts. In political psychology experiments scripts are almost nonexistent. Do scripts matter?

### Reading Assignments:

Morton, Chapter 10

Hertwig & Ortmann, 2001, "Experimental Practices in Economics: A Methodological Challenge for Psychologists," *Behavioral and Brain Sciences* 24(4),

Camerer, Loewenstein, & Weber (1989) "The curse of knowledge in economic setting: An experimental analysis." *Journal of Political Economy* 97:1232-1255.

Davies, M. F. (1992) "Field dependence and hindsight bias: Cognitive restructuring and the generation of reasons." *Journal of Research in Personality* 26:58-74.

### Topic 11 – Other Differences Between Formal Theory Experiments and Political Psychology Experiments

Formal theory experiments usually focus on behavior of group, whereas political psychology experiments examine individual level, decision theoretic behavior. Why is better? In formal theory experiments, the subjects often repeat the tasks many times but rarely repeat tasks in political psychology experiments. Is repetition good or bad? Political psychologists often use deception in experiments, formal theory experiments rarely have deception. Is deception a necessary evil?

Reading assignments:

Morton, Chapter 11

Hertwig & Ortmann, 2001, "Experimental Practices in Economics: A Methodological Challenge for Psychologists," *Behavioral and Brain Sciences* 24(4),

Daniel Friedman, "Monty Hall's Three Doors: Construction and Deconstruction of a Choice Anomaly," *American Economic Review*, 88:4, 933-946 (Sept. 1998)

### Topic 12 – Motivating Subjects and Choosing Subjects

In formal theory experiments subjects are motivated through financial incentives but in psychology experiments this is rarely the case? Does it matter? How do we handle risk aversion – which may interfere with financial incentives? Where are subjects recruited? Does it make a difference what types of subjects we recruit?

Morton, Chapter 12

Friedman, Chapters 2 and 4

Roth, Chapter 1

Davis and Holt, *Experimental Economics*, Princeton U. Press, 1993, selected reading.

Hertwig & Ortmann (HO), 2001, "Experimental Practices in Economics: A Methodological Challenge for Psychologists," *Behavioral and Brain Sciences* 24(4),

Camerer, Colin & Robin Hogarth (CH), "The Effects of Financial Incentives in Experiments: A Review and Capital-Labor-Production Framework," *Journal of Risk and Uncertainty*, 19:1-3;7-42 (1999)

### Topic 13 – Analyzing Experimental Data

Data from experiments should be straightforward to analyze since the design is supposed to be where the statistics matters. But is that always the case? How do we address subject's errors?

Reading Assignments:

Morton, Chapter 13

Friedman, Chapters 7 and 8

El-Gamal, Mahmoud A., Richard D. McKelvey, & Thomas R. Palfrey, "Computational Issues in the Statistical Design and Analysis of Experimental Games," *International Journal of Supercomputer Applications*, vol. 7, no. 3, fall 1993, 189-200.

El-Gamal, Mahmoud A. & Thomas R. Palfrey, "Economical Experiments: Bayesian Efficient Experimental Design," *International Journal of Game Theory*, 1996, 25:495-517.

McKelvey, R.D. and Palfrey, T.R. (1995). "Quantal Response Equilibria in Normal Form Games." *Games and Economic Behavior*. 7, 6–38.

### Topic 14 – Ethical Issues in Experimentation

Experiments involve interfering in real individual decisions. There are famous cases of experiments that cause serious harm to the subjects. What are the ethical questions facing political scientists who use experiments?

Morton, Chapter 14

Topic 15 – The Future of Experimentation in Political Science – the influence of behavioral economics?

Morton, Chapter 15

Charness and Rabin. August 2002. "Understanding Social Preferences with Simple Tests." *Quarterly Journal of Economics* 817-870.

Bolton and Ockenfels. March 2000. "ERC: A Theory of Equity, Reciprocity, and Competition." *American Economic Review*.

Fehr and Schmidt. August 1999. "A Theory of Fairness, Competition, and Cooperation." *Quarterly Journal of Economics*.

Gintis et al. 2001. "Cooperation, Reciprocity, and Punishment in Fifteen Small-Scale Societies."

Bohnet, Frey, and Huck. March 2001. "More Order with Less Law: On Contract Enforcement, Trust, and Crowding." *American Political Science Review*.

Glaeser, Laibson, Schankman, and Soutter. August 2000. "Measuring Trust." *Quarterly Journal of Economics* 831-846.

Andreoni and Vesterlund. February 2001. "Which is the True Fair Sex? Gender Differences in Altruism." *Quarterly Journal of Economics* 293-.

Chin, Bond, and Geva. May 2000. "A Foot in the Door: An Experimental Study of PAC and Constituency Effects on Access." *Journal of Politics* 62(2):534-549.