

POL8120: Core Course in Political Methodology:
Modeling Political Processes
1450 Social Sciences Building
1:25-3:20pm¹

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Final Draft (Fall, 2005)

This course surveys applications of natural science methods in the analysis of normatively significant political problems. Its unifying themes are the EITM (Empirical Implications of Theoretical Models) project of the National Science Foundation and the promise of policy relevant research on important topics like electoral law and conflict early warning. We begin with a study of mathematical reasoning in political science. We review models of unitary, political decision making, strategic choice in two person and n-person settings. Agent-based, computational modeling also is reviewed. We then turn to empirics. Research design, measurement, human experimentation, modeling of micro and macro political processes, and cross-level inference are studied in this third part. In the conclusion, efforts to join mathematical, statistical, and computational approaches are studied. These efforts come from the fields of American, Comparative, and International Politics.

Students are required to complete all the required reading for the course and to write two papers. The first is a critical review of a selection of readings for one of the weeks in Parts Two (weeks III-VI) or Three (weeks VII-XII). The second paper is a research design for the application of a method studied in the course. If this method comes from Part Two, students are urged to write their first paper on readings from Part Three. If the second paper is a design for an application of a method from Part Three, ideally, the first paper should be a critical evaluation of work in a week in Part Two.

In addition, all students also are required to present one reading in class and to write a final examination that covers the reading for the entire course.

The final grade for the seminar will be weighted roughly as follows: class participation-15%, paper one--25%, paper two—30%, and final examination—30%.

NB. Many of the readings are available directly through JSTOR (www.jstor.org)

¹ Additional math-stat refresher sessions are scheduled for 11:30am-12:30pm on the following Thursdays in the Lippincott seminar room: September 15, 22, 29.

Part One: Motivation

**I. Introduction and organization. Puzzles, problems, debates and agendas
September 12**

Required-Thematic

EITM: Empirical Implications of Theoretical Models (2002) Report to the Directors of the Social, Behavioral, and Economic Sciences, National Science Foundation, selections.

Granato, James (2005) “Scientific Progress in the Study of Quantitative Political Economy” The Political Economist 12(4).

Required-Praxis; Applications in law and international relations)

²Brady, Henry et. al (2001) “Law and Data: The Butterfly Ballot Episode” PS: Political Science and Politics 24(1): 59-69.

OR

King, Gary and Langche Zeng (2001) “Improving Forecasts of State Failure” World Politics 53: 623-658.

Recommended

Symposium: Two Paths to a Science of Politics (2004), Perspectives on Politics 2(2): 295-324:

Brady, Henry E. “Introduction”

Smith, Rogers M. “Identities, Interests and the Future of Political Science

Granato, James and Frank Scioli (2004) “Puzzles, Proverbs, and Omega Matrices: The Scientific and Social Significance of Empirical Implications of Theoretical Models (EITM)”

Wand, Jonathan N. et. al (2001) “The Butterfly Did It: The Aberrant Vote for Buchanan In Palm Beach County, Florida” American Political Science Review 95(4): 793-810.

Donald P. Green and Ian Shapiro (1994) Pathologies of Rational Choice: A Critique Of Applications in Political Science New Haven, CT: Yale University Press.

Morton, Rebecca (1999) Methods and Models: A Guide to the Empirical Analysis of Formal Models in Political Science NY: Cambridge University Press.

² Assigned for the September 13 meeting of POL8101.

Part Two: Political theorizing through mathematics

II. Political decision making (rational choice and decision theory)

September 19:

Required:

Morrow, James D. (1994) "Utility Theory" Chapter Two in Game Theory for Social Scientists Princeton, NJ: Princeton University Press, pps. 16-50.

Green, Donald P. and Ian Shapiro (1994) "The Paradox of Voter Turnout." Chapter 4 in Pathologies of Rational Choice: A Critique of Applications in Political Science New Haven, CT: Yale University Press.

Cox, Gary (1999) "The Empirical Content of Rational Choice Theory: A Reply To Green and Shapiro," Journal of Theoretical Politics 11: 147-169.

Tversky, Amos and David Kahneman (1987) "Rational Choice and the Framing of Decisions." In Rational Choice: The Contrast Between Economics and Psychology R. M. Hogarth and M.W. Reder editors. Chicago: University of Chicago Press.

Recommended

Downs, Anthony (1957) "Introduction" Chapter 1 in An Economic Theory of Democracy NY Harper and Row Publishers.

Riker, William H. and Peter C. Ordeshook (1973) An Introduction to Positive Political Theory Englewood Cliffs, NJ: Prentice-Hall, Inc.

Satz, Debra and John Ferejohn (1994) "Rational Choice and Social Theory" Journal of Philosophy 91: 71-87.

Quattrone, George A. and Amos Tversky (1984) "Causal versus Diagnostic Contingencies: On Self-Deception and o the Voter's Illusion" Journal of Personality And Social Psychology 46: 237-248.

Simon, Herbert A. (1985) "Human Nature in Politics: The Dialogue of Psychology With Political Science" American Political Science Review 79: 293-304.

Camerer, Colin (2003) Behavioral Game Theory Princeton, NJ: Princeton University Press.

Lau, Richard R. (2003) "Models of Decision Making." In Political Psychology D.O. Sears, L. Huddy, and R. Jervis (eds.) Oxford: Oxford University Press.

III. Strategic decision making in “two person” settings September 26

Required

Osborne, Martin J. (2004) An Introduction to Game Theory NY Oxford University Press: Chapters 1, 2, 4 (pps. 11-54, 99-152)

Iversen, Torben (1999) “An Institutional Model of Economic Performance” Chapter 2 in Contested Economic Institutions NY: Cambridge University Press.

Recommended

Fang, Songying and Kristopher Ramsey (2005) “The Dynamics of Alliances in Anarchy.” Unpublished manuscript.

Farrell, Joseph (1987) “Cheap Talk, Coordination, and Entry.” Rand Journal of Economics 18: 34-39

Richards, Diana (2001) “Coordination in Shared Mental Models” American Journal Of Political Science 45: 259-276.

Crawford, Vincent P. and Hans Heller (1990) “Learning How to Cooperate: Optimal Play in Repeated Coordination Games” Econometrica 58: 571-595.

Calvert, Randall L. (1995) “The Rational Choice Theory of Social Institutions: Cooperation, Coordination and Communication.” In Modern Political Economy: Old Topics, New Directions J.S. Banks and E. Hanushek (eds) NY: Cambridge University Press.

Przeworski, Adam and Michael Wallerstein (1982) “The Structure of Class Conflict In Democratic Capitalist Societies” American Political Science Review 76: 215-238.

Crime Games

Tsebelis, George (1989) “The Abuse of Probability in Political Analysis: The Robinson Crusoe Fallacy” American Political Science Review 83(1): 77-91.

Bianco, William T, Peter C. Ordeshook, and George Tsebelis (1990) “Crime and Punishment: Are One-Shot, Two-Person Games Enough?” American Political Science Review 84(2): 569-586.

Cox, Gary W. (1994) “A Note on Crime and Punishment” Public Choice pps. 115-124.

IV. Collective decision making, part one

October 3

Required

Hinich, Melvin and Michael Munger (1997) Analytic Politics NY: Cambridge University Press, Chapters 2, 3, 5 (pps. 21-72; 90-114)

Riker, William (1980) "Implications from Disequilibrium of Majority Rule for The Study of Institutions" American Political Science Review 23: 27-60.

Shipan, Charles and Ferejohn, John and (1990) "Congressional Influence on Bureaucracy" Journal of Law, Economics and Organizations 6: 1-21.

Recommended

Arrow, Kenneth J. (1963) Social Choice and Individual Values Second Edition. New Haven, CT Yale University Press.

Blau, Julian H.(1972) "A Direct Proof of Arrow's Theorem" Econometrica 40(1): 61-67.

McKelvey, Richard D. (1976) "Intransitivities in Multidimensional Voting Models And Some Implications for Agenda Control" Journal of Economic Theory 2:472-482.

Baldez, Lisa and John M. Carey (2002) "Budget Procedure and Fiscal Restraint in Post Transition Chile." Chapter 4 in Presidents, Parliaments, and Policy Stephan Haggard and Matthew McCubbins editors. NY: Cambridge University Press.

Laver, Michael and Kenneth Shepsle (1997) Making and Breaking Governments: Cabinets and Legislatures in Parliamentary Democracies NY: Cambridge University Press.

Schwartz, Thomas (1987) "Votes, Strategies, and Institutions: An Introduction to the Theory of Collective Choice." In Congress: Structure and Policy M. McCubbins and T. Sullivan editors.

Romer, Thomas and Howard Rosenthal (1978) "Political Resource Allocation, Controlled Agendas, and the Status Quo" Public Choice 33(4): 27-44.

Shepsle, Kenneth A. (1986) "Studying Institutions: Some Lessons from the Rational Choice Approach" Journal of Theoretical Politics 1: 131-147.

Shepsle, Kenneth A. (1986) "Institutional Equilibrium and Equilibrium Institutions" In Political Science: The Science of Politics H. Weisberg ed. NY: Agathon.

**V. Collective decision making, part two [computational approaches methods]
October 10**

Required

Kollman, Kenneth and Scott Page (forthcoming) “Computational Methods and Modeling Politics” in Handbook of Computational Economics vol. 2 L. Tesfation and K. Judd Editors. *Pages 12-21*.

Jones, Brad et. al.(1995) “Condorcet Winners and the Paradox of Voting: Probability Calculations for Weak Preference Orderings” American Political Science Review 89(1): 137-147.

Kollman, Ken, John Miller and Scott Page (1992) “Adaptive Parties in Spatial Elections” American Political Science Review 86: 929-937.

Bhavnani, Ravi and David Backer (2000) “Localized Ethnic Conflict and Genocide: Accounting for Differences in Rwanda,” Journal of Conflict Resolution June: 283-306.

Cederman, Lars Erik (2001) “Modeling the Democratic Peace as a Kantian Selection Process” Journal of Conflict Resolution 45: 470-502.

Recommended

Axelrod, Robert (1984) The Evolution of Cooperation NY: Basic Books

Axelrod, Robert (1997) The Complexity of Cooperation Princeton, NJ
Princeton University Press.

Bhavnani, Ravi (2003) “Adaptive Agents, Political Institutions, and Civic Tradition In Modern Italy,” Journal of Artificial Societies and Social Simulations 6(4).

Cederman, Lars Erik (1997) Emergent Actors: How States and Nations Develop And Dissolve Princeton NJ: Princeton University Press.

Cederman, Lars Erik (2003) “Modeling the Size of Wars: From Billard Balls to Sandpiles” American Political Science Review 97: 135-150.

De Marchi, Scott (1999) “Adaptive Models and Electoral Instability” Journal of Theoretical Politics 11(3): 393-419.

De Marchi, Scott (2005) Lifting the Curse of Dimensionality: Computational Modeling in the Social Sciences NY Cambridge University Press.

Kollman, Kenneth, John Miller, and Scott Page (1998) “Political Parties and Electoral Landscapes” British Journal of Political Science 28: 139-158.

Samuelson, Larry (1997) Evolutionary Games and Equilibrium Selection Cambridge, Ma. MIT Press.

Kranton, Rachel E. (1996) “Reciprocal Exchange: A Self-Sustaining System” American Economic Review 86:: 830-851.

Rubinstein, Ariel (1986) “Finite Automata Play Repeated Prisoner’s Dilemma” Journal of Economic Theory 39: 83-96.

Banks, Jeffrey S. and Rangarajan K. Sundaram (1990) “Repeated Games, Finite Automata and Complexity” Games and Economic Behavior 2: 97-117.

Basu, Kaushik (1996) “Notes on Evolution, Rationality, and Norms” Journal of Institutional and Theoretical Economics 152: 739-750.

Young, Peyton H. (1993) “The Evolution of Conventions” Econometrica 61(1): 57-84.

Part Three: Testing political theories and uncovering (political) stylized facts

VI. Research design and Causality

October 17

Required

Baumoeller, Bear F. (2003) “Causal Complexity and the Study of Politics” Political Analysis 11: 209-233.

Baumoeller, Bear F. and Gary Goertz (2000) “The Methodology of Necessary Conditions” American Journal of Political Science 44(4): 844-858.

Ragin, Charles C. (1987) The Comparative Method Berkeley, Ca. University of California Press, Chapters 1-5 (pps. 1-84).

Recommended

³Cook, Thomas D. and Donald T. Campbell (1979) Quasi-Experimentation: The Design and Analysis Issues for Field Settings Boston: Houghton-Mifflin.

³ Assigned for the October 4 meeting of POL8101.

Freeman, John R. (1983) “Granger Causality and the Time Series Analysis of Political Relationships” American Journal of Political Science 27(2): 327-358.

Geddes, Barbara (2003) Paradigms and Sand Castles: Research Design in Comparative Politics Ann Arbor: University of Michigan Press.

⁴Gerring, John (2004) “What is a Case Study and What is it Good For?”
American Political Science Review 98(2): 341-354.

Gerring, John (2001) Social Science Methods: A Critical Framework NY. Cambridge University Press.

Holland, Paul W. (1986) “Statistics and Causal Inference” Journal of the American Statistical Association 81: 945-960.

⁵King, Gary, Robert O. Keohane, and Sidney Verba (1994) Designing Social Inquiry Princeton, NJ: Princeton University Press.

VII. Measurement and identification **October 24**

Required

Manski, Charles F. (1995) Identification Problems in the Social Sciences Cambridge, Ma. Harvard University Press, Chapter 1 (pps. 1-9)

⁶Przeworski et. al. (2000) Democracy and Development: Political Institutions and Well-Being in the World 1950, 1990 NY Cambridge University Press, Introduction And Chapter 1 (pps. 1-77).

Treier, Shawn and Simon Jackman (2005) “Democracy as A Latent Variable”
Unpublished manuscript.

Zaller, John and Stanley Feldman (1992) “A Simple Theory of the Survey Response: Answering Questions Versus Revealed Preferences” American Journal of Political Science 36: 579-616.

⁴ Assigned for the October 11 meeting of POL8101.

⁵ Assigned for the October 11 meeting of POL8101.

⁶ Assigned for the October 11 meeting of POL8101.

Recommended

King, Gary, James Honaker, Anne Joseph, and Kenneth Scheve (2001) "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation" American Political Science Review 95: 49-70.

Martin, Andrew and Kevin M. Quinn (2002) "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953-1999" Political Analysis 10(2):134-153.

Quinn, Kevin M. (2004) "Bayesian Factor Analysis for Mixed Ordinal Continuous Response" Political Analysis 12(2): 338-353.

VIII Experimental methods October 31

Required

Green, Donald P. and Alan S. Gerber (2002) "Reclaiming the Experimental Tradition in Political Science." In Political Science: The State of the Discipline Third Edition, R. Milner and I. Katznelson eds. NY W.W.Norton and Company.

McDermott, Rose (2002) "Experimental Methods in Political Science" Annual Review of Political Science 5:31-61.

⁷Druckman, James N. (2004) "Political Preference Formation: Competition, Deliberation And the (Ir)Relevance of Framing Effects." American Political Science Review 98(4): 671-686.

Sniderman, Paul M. and Douglas B. Grob (2002) "Innovations in Experimental Design in Attitude Surveys" Annual Review of Sociology 22:377-399.

Recommended

Sears, David O. (1986) "College Sophomores in the Laboratory: Influences of a Narrow Data Base on Social Psychology's View of Human Nature" Journal of Personality and Social Psychology 51(3): 515-530.

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

⁷ Assigned for the November 22 meeting of POL8101.

Kuklinski, James H. and Paul J. Quirk (2003) "Rethinking the Survey Experiment." Paper presented at the Annual Meeting of the Midwest Political Science Association, Chicago.

Druckman, James N. (Nd) "Experiments." In Polling America: An Encyclopedia Of Public Opinion Volume 2. S.J. Best and B. Radcliff eds. Westport, CT: Greenwood Publishing Company.

IX. Analyzing micropolitical processes

November 7

Required

Berinsky, Adam (1999) "The Two Faces of Public Opinion" American Journal of Political Science 43(4): 1209-1230.

Gerber, Elizabeth (1996) "Legislative Response to the Threat of Popular Initiatives" American Journal of Political Science 40: 99-128.

Nagler, Jonathan and R. Michael Alvarez (1998) "When Politics and Models Collide: Estimating Models of Multi-Party Elections" American Journal of Political Science 42: 55-96.

Signorino, Curtis S. (1999) "Strategic Interaction and the Statistical Analysis of International Conflict" American Political Science Review 93(2): 279-298.

Recommended

Alvarez, R. Michael and John Brehm (1995) "American Ambivalence Toward Abortion Policy" American Journal of Political Science 39: 1055-1082.

Timpone, Richard (1998) "Structure, Behavior, and Voter Turnout in the U.S." American Political Science Review 92: 145-158.

Nagler, Jonathan, R. Michael Alvarez, and Shaun Bowler (2000) "Issues, Economics, And the Dynamics of Multi-Party Elections" American Political Science Review 94: 131-149.

Nagler, Jonathan and R. Michael Alvarez (2000) "A New Approach for Modeling Strategic Voting in Multi-Party Elections" British Journal of Political Science 30:57-75.

X. Analyzing macropolitical processes
November 14

Required

Beck, Nathaniel, Gary King, and Langche Zeng (2000) "Improving Quantitative Studies of International Conflict: A Conjecture" American Political Science Review 94(1): 21-35.

Freeman, John R., John T. Williams and Tse-min Lin (1989) "Vector Autoregression And the Study of Politics" American Journal of Political Science 327-358.

Green, Donald, Brad Palmquist, and Eric Schickler (1998) "Macropartisanship: Replication and Critique" American Political Science Review 92(4): 883-900.

Erikson, Robert, Michael MacKuen, and James Stimson (1998) "What Moves Macropartisanship? A Reply to Green, Palmquist and Schickler" American Political Science Review 92(4): 901-912

Przeworski, Adam et. al. (2000) "Political Regimes and Economic Growth" Chapter 3 in Democracy and Development op. cit. (pps. 142-186)..

Required

Erikson, Robert, Michael MacKuen and James Stimson (2002) The Macropolity NY Cambridge University Press.

Franciso, Ronald A. (1996) "Coercion and Protest: An Empirical Test in Two Democratic States" American Journal of Political Science 49(4): 1179-1204.

Scott De Marchi, Christopher Gelpi, and Jeffrey D. Grynviski (2004) "Untangling Neural Nets" American Political Science Review 98(2): 371-378.

Beck, Nathaniel, Gary King, and Langche Zeng (2004) "Theory and Evidence in International Conflict: A Response to de Marchi, Gelpi, and Grynviski" American Political Science Review 98(2): 379- 389.

Campaign Spending

Jacobson, Gary C. (1978) "The Effects of Campaign Spending in Congressional Elections" American Political Science Review 72: 469-491.

Green, Donald P. and Jonathan S. Krasno (1988) "Salvation for the Spendthrift Incumbent: Reestimating the Effects of Campaign Spending in House Elections" American Journal of Political Science 32: 884-907.

Jacobsen, Gary C. (1990) "The Effects of Campaign Spending in House Elections: New Evidence for Old Arguments" American Journal of Political Science 34: 334-362.

Green, Donald P. and Jonathan Krasno (1990) "Rebuttal to Jacobson's New Evidence For Old Arguments" American Journal of Political Science 34: 363-372.

XI. Cross-level inference

November 21

Required

King, Gary (1997) A Solution to the Ecological Inference Problem Princeton, NJ: Princeton University Press, Chapters 1, 2, and 10 (pps. 1-34; 199-216).

Box Steffensmeier, Janet M. and Renee M. Smith (1996) "The Dynamics of Aggregate Partisanship," American Political Science Review 90(3): 567-580

Recommended

Achen, Christopher H. and W. Phillips Shively (1995) Cross-Level Inference Chicago: University of Chicago Press.

A Symposium on the Application of EI Methods, Political Analysis 2003, 11(1): 44-94.

M. Herron and K. Schotts "Using Ecological Inference Point Estimates as Dependent Variables in Second Stage Regressions"

C. Adolph and G. King, "Comment on Herron and Schotts"

M.Herron and K. Schotts "Cross-contamination in EI-R: A Reply"

C.Adolph and G. King with M.Herron and K.Schotts, "A Consensus Second Stage Analyses in Ecological Inference Models"

Part Four: Syntheses—the EITM Project

XII. The American “electoral universe”

November 28

Required

Mebane, Walter R. Jr. (2000a) “Coordination, Moderation, and Institutional Balancing in American Presidential and House Elections” *American Political Science Review* 94(1): 36-57.

Mebane, Walter R. Jr.(2000b) “Congressional Campaign Contributions, District Services, and Electoral Outcomes in the United States: Statistical Tests of a Formal Game Model With Nonlinear Dynamics.” In *Political Complexity: Nonlinear Models of Politics* D. Richards ed. Ann Arbor, Michigan: University of Michigan Press.

Mebane, Walter R. Jr. and Jasjeet Singh Sekhon (2002) “Coordination and Policy Moderation at the Mid-term” *American Political Science Review* 96(1): 141-157.

Mebane, Walter R. Jr. (2005) “Partisan Messages, Unconditional Strategies, and Coordination in American Elections.” Unpublished manuscript.

XIII. Political economy

December 5

Required

Alesina, Alberto, John Londregan, and Howard Rosenthal (1993) “A Model of the Political Economy of the United States” *American Political Science Review* 87:12-33.

Freeman, John R. and Daniel Houser (1998) “A Computable Equilibrium Model for the Study of Political Economy” *American Journal of Political Science* 42(2): 628-660.

Iversen, Torben and Anne Wren (1998) “Equality, Employment and Budget Restraint: The Trilemma of the Service Economy” *World Politics* 50: 507-547

Recommended

Alesina, Alberto and Howard Rosenthal (1995) *Partisan Politics, Divided Government And The Economy* Cambridge: Cambridge University Press.

Freeman, John R. (2005) "Modeling Macropolitics: EITM and Reality." Paper presented At the EITM Workshop, Meeting of the Canadian Political Science Association, London, Ontario, June.

Freeman, John R. and James Alt (1994) "The Politics of Public and Private Investment In Britain." In The Comparative Political Economy of the Welfare State A.Hicks and T. Janoski eds. NY: Cambridge University Press.

Houser, Daniel and John R. Freeman (2002) "Economic Consequences of Political Approval Management in Comparative Perspective" Journal of Comparative Economics 29: 692-721.

Kollman, Kenneth, John Miller and Scott Page Editors (2003) Computational Models of Political Economy Cambridge, MA MIT Press.

XIV. Bayesian approaches to political analysis

December 12

Required

⁸Brandt, Patrick T. and John R. Freeman (forthcoming) "Bayesian Time Series Analysis: Theory Testing, Forecasting and Policy Analysis" Political Analysis (January)

Gill, Jeff and Lee D. Walker (2005) "Elicited Priors for Bayesian Model Specification" Journal of Politics 67(3): 841-872

Jackman, Simon (2004) "Bayesian Analysis for Political Research" Annual Review Of Political Science 7:483-505.

Western, Bruce and Simon Jackman (1994) "Bayesian Inference for Comparative Research" American Political Science Review 88: 412-423.

Recommended

⁹Brandt, Patrick T. and John R. Freeman (2005) "Modeling Macro Political Dynamics." Paper presented at the Annual Meeting of the American Political Science Association, Washington, DC.

Gill, Jeff (2002) Bayesian Methods: A Social and Behavioral Approach Boca Raton, FL.: Chapman and Hall.

Jackman, Simon (2000) "Estimation and Inference via Bayesian Simulation: An Introduction to Markov Chain Monte Carlo" American Journal of Political Science 44(2): 375-405.

⁸ Available on instructor's website: www.polisci.umn.edu/faculty/freeman.

⁹ Available on instructor's website.