

Formal Political Theory
Political Science 9050
Spring 2021

Monday 3:00-5:30

13 Middlebush Hall

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Office Hours: TR 1:00-2:00
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Course Objectives:

This seminar introduces formal methods of analysis central to contemporary political science research. The field of formal political theory has been referred to by a variety of names, including positive theory, rational choice, public choice, and collective choice, among others. Formal political theory is similar to economic analysis of rational behavior in market contexts. The difference between formal theory in political science and economics is primarily a difference of context, not of methodology. Formal methods are used in nearly all fields of political science and can be found in all major political science journals. Among the subjects reviewed in the seminar are game theory, spatial models of decision-making, social choice, and institutional analysis. Since this seminar is only a one-semester course, we can only cover the surface of formal models and their applications. But we should be able to provide a foundation for further study. The objectives of the course are to motivate students to think deeply about political phenomena, to think logically, and to formulate their ideas more completely. In addition to learning about the design of research, students should be able to read and appreciate current political science scholarship. This seminar serves a methodology course within the Department of Political Science, though it is not a course in statistics. A reasonable knowledge of mathematics is assumed, but nothing beyond the level of college algebra is required. The emphasis of the course is on application of formal methods to the study of political phenomena.

Spring 2021 Challenges:

The unique circumstances of the Spring 2021 semester may require some flexibility as we proceed. The course is offered as an in-person class, though it will also be offered virtually on Zoom or a similar platform for those who find it best not to attend class in person. We will meet in a seminar setting, so this class focuses on active learning through weekly class interaction and activities. Since the current environment does not allow direct student interaction, we will adapt as appropriate. All office hours will be held on Zoom until further notice.

Any person who tests positive for COVID-19, who has a close, extended interaction with another who tests positive for COVID-19, or who has a pre-existing condition with heightened risk should participate in class virtually. Moreover, anyone who has a temperature of 100.4 degrees or higher, who has an explained cough, or who has any of the list of symptoms identified in MU's Show Me Renewal document or subsequent revision should participate in the virtual class option for that day. For those attending class in-person, safe practices as defined by the University of Missouri are required. These requirements include wearing an approved mask covering the nose and mouth and maintaining appropriate (six feet) physical distance from others.

Of course, circumstances may change during this unusual semester, and any changes will be announced in class or email as well as on the course Canvas site. For instance, if we are required to hold class online only, we will adjust as appropriate. However, as our semester unfolds, please remember to keep in contact with your instructor. I am here to help! We will make all reasonable efforts to have an excellent semester.

Course Requirements:

All readings should be completed by the date indicated on the syllabus, and students should be prepared to discuss the topic and the literature during that class session. Discussion and/or presentation of weekly material will occur regularly. One assignment involves a brief, in-class presentation of a case-study on the manipulation of political outcomes. A second assignment involves a presentation on formal analysis of a chapter or article for the last week of the semester. Depending on the number of students in the seminar, we may have students work in groups of two or three on the presentations.

Each student will also be responsible for seven problem sets. The problem sets involve several mathematical or other thought-provoking exercises (often problems from chapters in the text). They cover material in major sections of the course. These problem sets must be completed by the due dates show on the syllabus (or if we have changes during the semester by the date announced in class and posted to the course Canvas site). Generally, the problem sets will be assigned on the Monday shown in the schedule below and collected on the following Monday.

Final course grades will be based on attendance and participation (10%), the brief presentations (20%), and the seven problem sets (70%).

Textbooks:

We will be covering all (or nearly all) material in the following required texts.

Munger, Michael C., and Kevin M. Munger. 2015. *Choosing in Groups: Analytical Politics Revisited*. Cambridge University Press.

Riker, William H. 1982. *Liberalism Against Populism*. Waveland Press.

Shepsle, Kenneth A. 2010. *Analyzing Politics*, 2nd ed. W.W. Norton.

Williams, Kenneth C. 2013. *Introduction to Game Theory: A Behavioral Approach*. Oxford University Press.

Course Outline and Reading Assignments:

Readings with an asterisk (*) on the following list are required for all students. All other readings are recommended for further study. Readings should be completed by the date of class shown, and students should be prepared to discuss these readings in class. Exercises and assignments may be assigned during the seminar and will complement the learning objectives for that week. Answers to problem sets are due on Monday of the following weeks, unless otherwise noted in class. Problems sets will be available one week in advance at a

minimum. The following outline is, as always, *subject to change*.

- Jan. 25 Introduction
- Feb. 1 Rationality: Mathematical Models
 *Shepsle, chapters 1-2
 *Rebecca B. Morton, *Methods and Models: A Guide to the Empirical Analysis of Formal Models in Political Science*, 1999, chapters 2-3, skim chapter 4.
 *Carol Mershon and Olga Shvetsova, *Formal Modeling in Social Science*, 2019
 *Andrew Hindmoor and Brad Taylor, chapter 1
 Amos Tversky and Daniel Kahneman, "The Framing of Decisions and the Psychology of Choice," *Science* 211(1981): 453-458.
 Anatol Rapoport, "The Use and Misuse of Game Theory," *Scientific American* 207 (1962).
 Jon Elster, *Rational Choice*, 1986
 Charles A. Lave and James G. March, *An Introduction to Models in the Social Sciences*, 1975
- Feb. 8 Constitutions: Voting Rules and Paradoxes
 *Riker, chapters 1-4
 *Shepsle, chapters 3, 4 (pp. 53-67), and 7
 *Munger and Munger, chapters 1-3
 Kenneth O. May, "A Set of Independent Necessary and Sufficient Conditions for Simple Majority Decision," *Econometrica* 20 (October 1952): 680-684
 James Buchanan and Gordon Tullock, *The Calculus of Consent*, 1962
 Gary Cox, *Making Votes Count: Strategic Coordination in the World's Electoral Systems*, 1997
- Feb. 15 The General (Im)Possibility Theorem
 *Riker, chapter 5
 *Shepsle, chapter 4 (pp. 67-89)
 Munger and Munger, chapters 4, 7
 Kenneth Arrow, *Social Choice and Individual Values*, 2nd ed., 1963
 John Craven, *Social Choice: A Framework for Collective Decisions and Individual Judgements*, 1992
 William Gehrlein, *Condorcet's Paradox*, 2006.
Problem Set 1 Due
- Feb. 22 Manipulation of Social Choice
 *Riker, chapters 6-10
 *Shepsle, chapter 6
 Robin Farquharson, *Theory of Voting*, 1969
 Allan Gibbard, "Manipulation of Voting Schemes: A General Result," *Econometrica* 41 (July 1973): 587-601.
 Mark Satterthwaite, "Strategy Proofness and Arrow's Conditions," *Journal of Economic Theory* 10 (October 1975): 187-217.
 (*)William H. Riker, *The Art of Political Manipulation*, 1986 (for presentations)
Problem Set 2 Due

- Mar. 1 Unidimensional Spatial Models
 *Munger and Munger, chapter 5
 *Shepsle, chapter 5 (pp. 90-99, skim rest)
 Duncan Black, *Theory of Committees and Elections*, 1958
 Anthony Downs, *An Economic Theory of Democracy*, 1957
 Geoffrey Brennan and Loren Lomansky, *Democracy and Decision*, 1993
Presentations
- Mar. 8 Multidimensional Spatial Models
 *Munger and Munger, chapter 6, 8
 Richard D. McKelvey, "Intransitivities in Multidimensional Voting Models and Some Implications for Agenda Control," *Journal of Economic Theory*, 12 (1976): 472-482
 Richard D. McKelvey, "General Conditions for Global Intransitivities in Formal Voting Models," *Econometrica*, 47 (1979): 1085-1112
 James M. Enelow and Melvin J. Hinich, *The Spatial Theory of Voting*, 1984
Problem Set 3 Due
- Mar. 15 Advanced Topics in Spatial Modeling
 *Munger and Munger, chapter 9
 *Richard D. McKelvey and Peter C. Ordeshook, "A Decade of Experimental Research on Spatial Models of Elections and Committees," in Enelow and Hinich, eds., *Advances in the Spatial Theory of Voting*, 1990
 *William T. Bianco, Michael S. Lynch, Gary J. Miller, and Itai Sened, "A Theory Waiting to Be Discovered and Used: A Reanalysis of Canonical Experiments on Majority-Rule Decision-Making," *Journal of Politics*, 68 (Nov 2006), 838-851
 Keith Krehbiel, "Spatial Models of Legislative Choice," *Legislative Studies Quarterly*, 13 (1988): 259-319
Problem Set 4 Due
- Mar. 22 Utility Theory and Introduction to Game Theory
 *Williams, chapters 1, 2, 3, 4
 *Jack S. Levy, "Prospect Theory, Rational Choice, and International Relations," *International Studies Quarterly*, 41 (1 March 1997): 87-112.
 von Neumann and Morgenstern, *The Theory of Games and Economic Behavior*
 Luce and Raiffa, *Games and Decisions*
 David M. Kreps, *Game Theory and Economic Modelling*, 1998
 Jack S. Levy, "An Introduction to Prospect Theory," *Political Psychology* 13 (2 June): 171-186.
 Bruce Bueno de Mesquita and David Lalman, "The Road to War is Strewn with Peaceful Intentions," in Peter C. Ordeshook, ed., *Models of Strategic Choice in Politics*
- Spring Recess (Mar. 29)
- Apr. 5 Elements of Game Theory, Strategic Form; Equilibria, Dominance, Mixed Strategies
 * Williams, chapters 5, 6, 7

von Neumann and Morgenstern, *The Theory of Games and Economic Behavior*
Luce and Raiffa, *Games and Decisions*

- Apr. 12 Extensive Form Games; Political Games and Strategic Manipulation;
 Incomplete Information Games
* Williams, chapters 8, 9, 10
David P. Baron and John A. Ferejohn, "Bargaining in Legislatures," *American Political Science Review*, 1989, pp. 1181-1207
Amos Tversky and Daniel Kahneman, "The Framing of Decisions and the Psychology of Choice," *Science* 211(1981): 453-458
Martin J. Osborne, *An Introduction to Game Theory*, 2004
Nolan McCarty and Adam Meirowitz, *Political Game Theory*, 2007.
Selected Topics from Morrow, chapters 6, 7, 8
Problem Set 5 Due
- Apr. 19 Bayesian Learning; Coalition Theory; Repeated Games
*Williams, chapter 11
*Shepsle, chapters 8, 9, 10
Mancur Olson, *The Logic of Collective Action*, 1965
William Riker, *The Theory of Political Coalitions*, 1962
Kaare Strom, *Minority Government and Minority Rule*, 1990
Robert Axelrod, *The Evolution of Cooperation*, 1984
Problem Set 6 Due
- Apr. 26 Measuring Power; Apportionment; Legislatures as Institutions
*Dan S. Felsenthal and Moshe Machover, *The Measurement of Voting Power*, 1998, chapters, or other reading on power and apportionment TBA
*Shepsle, chapters 11-12
Kenneth A. Shepsle and Barry R. Weingast, "Positive Theories of Legislative Institutions," *Legislative Studies Quarterly* 19(2), May 1994, 149-179 (or see their book *Positive Theories of Congressional Institutions*, 1995.
Thomas Gilligan and Keith Krehbiel, "Organization of Informative Committees by a Rational Legislature," *American Journal of Political Science* 34 (1990): 531-564
- May 3 Other Political Institutions
*Shepsle, chapters 13-17
James Buchanan and Gordon Tullock, *The Calculus of Consent*, 1962
Thomas Hammond and Gary Miller, "The Core of the Constitution," *American Political Science Review*, 81(1987): 1155-1174
Kenneth A. Shepsle, "Institutional Arrangements and Equilibrium in Multidimensional Voting Models," *American Journal of Political Science* 23 (1979): 27-59.
Presentation; Problem Set 7 Due

General Texts for the Discerning Reader:

Rationality, Choice, and Rational Choice:

Barry and Hardin, eds., *Rational Man and Irrational Society? An Introduction and Sourcebook*

Becker, 1976, *The Economic Approach to Human Behavior*

Elster, ed., *Rational Choice*

Friedman, ed., 1995, *The Rational Choice Controversy* (or *Critical Review*, vol. 9, nos. 1-2)

Green and Shapiro, 1994, *Pathologies of Rational Choice* Hindmoor and Taylor, 2015, *Rational Choice*, 2nd ed.

Kahneman and Tversky, *Judgment Under Uncertainty and Choices, Values and Frames*

Kahneman, *Thinking Fast and Slow*

Popkin, 1979, *The Rational Peasant*

Schelling, *Micromotives and Macrobehavior*

Social Choice:

Arrow, *Social Choice and Individual Values*

Bonner, *Introduction to the Theory of Social Choice*

Fishburn, *The Theory of Social Choice*

McLain and Urken, eds., *Classics of Social Choice*

Schwartz, *The Logic of Collective Choice*

Sen, *Collective Choice and Social Welfare*

Spatial Models:

Adams, Merrill, and Grofman, *A Unified Theory of Party Competition: A Cross-National Analysis Integrating Spatial and Behavioral Factors*

Downs, *An Economic Theory of Democracy*

Enelow and Hinich, *The Spatial Theory of Voting*

Munger and Munger, *Ideology and the Theory of Political Choice*

Merrill and Grofman, *An Unified Theory of Voting: Directional and Proximity Spatial Models*

Schofield, *The Spatial Model of Politics*

Shepsle, *Models of Multiparty Competition*

Strom, *The Logic of Lawmaking*

Game Theory:

Baird, Gertner, and Picker, *Game Theory and the Law*

Davis, *Game Theory: A Non-Technical Introduction*

Dixit & Nalebuff, *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life*

Dixit and Skeath, *Games of Strategy*

Fudenberg and Tirole, *Game Theory*

Hamburger, *Games as Models of Social Phenomena*

Luce and Raiffa, *Games and Decisions: A Critical Survey*

McCarty and Meirowitz, *Political Game Theory*

Morrow, *Game Theory for Political Scientists*

Ordeshook, *Game Theory and Political Theory*

Ordeshook, *A Political Theory Primer*

Owen, *Game Theory*

Rasmusen, *Games and Information*

Shubik, *Game Theory in the Social Sciences: Concepts and Solutions*
 von Neumann and Morgenstern, *The Theory of Games and Economic Behavior*
 Weirich, *Equilibrium and Rationality*

General Reviews:

Abrams, *The Foundations of Political Analysis: An Introduction to the Theory of Collective Choice*
 Brams, *Paradoxes in Politics*
 Bueno de Mesquita, *The Predictioneer's Game: Using the Logic of Brazen Self-interest to See and Shape the Future*
 Frohlich and Oppenheimer, *Modern Political Economy*
 Grofman, ed., *Information, Participation and Choice*
 Holcombe, 2016, *Public Choice*
 Mueller, *Public Choice III*
 Olson, *The Logic of Collective Action*
 Ordeshook, ed., *Models of Strategic Choice in Politics*
 Riker and Ordeshook, *Introduction to Positive Political Theory*
 Shughart and Razzolini, *Elgar Companion to Public Choice*

Some Other “Classic” Books for Review:

Adams, James. 2001. *Party Competition and Responsible Party Government: A Theory of Spatial Competition Based upon the Insights from Behavioral Voting Research*. Ann Arbor: University of Michigan.

Adams, James, Samuel Merrill, and Bernard Grofman. 2005. *A Unified Theory of Party Competition: A Cross-national Analysis Integrating Spatial and Behavior Factors*. Cambridge: Cambridge University Press.

Balinski, Michel L., and H. Peyton Young. 2001 [1982]. *Fair Representation*, 2nd ed. Washington: Brookings Institution Press.

Brams, Steven J. 1985. *Superpower Games*. New Haven: Yale University Press.

Brams, Steven J. 1996. *Fair Division: From Cake-Cutting to Dispute Resolution*. Cambridge: Cambridge University Press.

Brennan, Geoffrey, and Loren Lomansky. 1993. *Democracy and Decision: The Pure Theory of Electoral Preference*. New York: Cambridge University Press.

Bueno de Mesquita, Bruce, and David Lalman. 1992. *War and Reason: Domestic and International Imperatives*. New Haven: Yale University Press.

Bueno de Mesquite, Bruce. 2009. *The Predictioneer's Game: Using the Logic of Brazen Self-interest to See and Shape the Future*. New York: Random House.

Camerer, Colin F. 2003. *Behavioral Game Theory: Experiments in Strategic Interaction*. Princeton: Princeton University Press.

Chong, Dennis. 1991. *Collective Action and the Civil Rights Movement*. Chicago: University of Chicago Press.

Chong, Dennis. 2000. *Rational Lives: Norms and Values in Politics and Society*. Chicago: University of Chicago Press.

Cox, Gary W. 1987. *The Efficient Secret: The Cabinet and the Development of Political Parties in Victorian England*. Cambridge: Cambridge University Press.

Farber, Daniel A., and Philip P. Frickey. 1991. *Law and Public Choice*. Chicago: University of Chicago Press.

- Flanagan, Thomas. 1998. *Game Theory and Canadian Politics*. Toronto: University of Toronto Press.
- Frohlich, Norman, and Joe A. Oppenheimer. 1992. *Choosing Justice: An Experimental Approach to Ethical Theory*. Berkeley: University of California Press.
- Gaertner, Wulf, and Erik Schokkaert. 2012. *Empirical Social Choice*. New York, NY: Cambridge University Press.
- Grossman, Gene M., and Elhanan Helpman. 2001. *Special Interest Politics*. Cambridge, MA: MIT Press.
- Horowitz, Donald L. 1991. *A Democratic South Africa?* Berkeley: University of California Press.
- Michael Laver and Norman Schofield. 1990. *Multiparty Government: The Politics of Coalition Formation in Europe*. Oxford: Oxford University Press.
- Jones, Bryan D. 1994. *Reconceiving Decision-making in Democratic Politics: Attention, Choice, and Public Policy*. Chicago: University of Chicago Press.
- Morgan, T. Clifton. 1994. *Untying the Knot of War: A Bargaining Theory of International Crises*. Ann Arbor: University of Michigan Press.
- Oppenheimer, Joe A. 2012. *Principles of Politics: A Rational Choice Theory Guide to Politics and Social Justice*. New York, NY: Cambridge University Press.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.
- Poundstone, William. 1992. *Prisoner's Dilemma: John von Neumann, Game Theory and the Puzzle of the Bomb*. New York: Doubleday.
- Rae, Douglas. 1971. *The Political Consequences of Electoral Law*. New Haven: Yale University Press.
- Saari, Donald G. 2001. *Decisions and Elections: Explaining the Unexpected*. New York: Cambridge University Press.
- Saari, Donald G. 2001. *Chaotic Elections: A Mathematician Looks at Voting*. Providence: American Mathematical Society.
- Sandler, Todd. 1992. *Collective Action: Theory and Applications*. Ann Arbor: University of Michigan Press.
- Schofield, Norman, and Annette Milford. 1996. *Collective Decision-Making: Social Choice and Political Economy*. Boston: Kluwer.
- Tsebelis, George. 1990. *Nested Games: Rational Choice in Comparative Politics*. Berkeley: University of California Press.
- Tullock, Gordon. 1998. *On Voting: A Public Choice Approach*. Northampton, MA: Edward Elgar.
- Wittman, Donald. 1997. *The Myth of Democratic Failure: Why Political Institutions Are Efficient*. Chicago, IL: University of Chicago Press.