

POLS 8000
Mon. 3:55-6:40 p.m.
Baldwin 102
Spring, 2024

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An Introduction to Rational Choice

This class introduces students to rational choice theory. Our emphasis will be on how rational choice theory applies to domestic and international politics, with many examples. Nevertheless, the material should be of interest to graduate students in public administration, economics, law, and other social sciences as much as it is for students in international affairs and political science. No prior knowledge of the subject is needed. However, I will assume that students have sufficient aptitude for abstract reasoning and enough high school algebra to move at a fairly quick pace. Required readings are followed by recommended readings to allow the go-getters to read more detail.

After a brief introduction, we will turn our attention to social choice theory and several of the conundrums that it presents. We will ask whether we can establish fair democratic procedures and if so, which procedures are the fairest. Next, we will introduce game theory and its application to Marbury v Madison, the Cuban Missile Crisis, collective action problems in alliances, voter turnout, and the political machines. Students will learn how to solve sequential and simultaneous games, n-player games, and get a taste of games with imperfect information. The third section of the course introduces students to the median voter theorem and how the model applies to studies of presidential veto power, decisions in the Supreme Court, and Downs' model of mass elections. We will then extend our single dimensional model to multiple dimensions and learn anomalies such as McKelvey's Chaos Theorem. These models will then be applied to vote trading in the Election of 1824 and vote cycles at the Constitutional Convention. In the end, students should acquire a good introduction to the theory and applications of rational choice theory – with lots of examples in various areas to help you appreciate its importance.

Polling

I will try to use Google Forms for in-class polling. That means you will login to a form to pick an answer. I will not know who answered the question nor get a record of individual responses. However, Google Forms will show us how the group responded in real time. The Google Form login is <https://forms.gle/M2sePUH1oecuCyTR7>. Please keep it in a handy location.

Mental Health and Wellness Resources

If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

UGA has several resources for a student seeking [mental health services](#) or [crisis support](#). If you need help managing stress anxiety, relationships, etc., please visit [BeWellUGA](#) for a list of FREE

workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center. Additional resources can be accessed through the UGA App.

Grading

Graduate students should focus on learning, not on grades. Nevertheless, your grade consists of five homework assignments worth 90% of your grade and a Perusall grade worth 10%. Perusall is a social e-reader which encourages you to discuss the readings with other students as you read. Your composite Perusall grade will be based on your reading and commenting on each assigned reading, i.e., you contribute toward it each week.

Perusall: All “required” readings are posted on [Perusall](#) – a social e-reader which encourages you to discuss the readings with other students. You can look up recommended readings on your own. Each reading in Perusall is considered an assignment that you read, question, and comment on, worth 10% of overall your grade. Students often ask, “how does Perusall grade me?” The answer is it grades reading and discussion. Focus on “discussion,” not posting, and pay attention to its nudges to get full points. Note, each assignment (a.k.a., each reading) should be completed before the relevant class. To find the Perusall reading, click on the Perusall link in ELC.

Homeworks: I will drop your two lowest homework grades, then assign the average of the remaining three grades as your overall homework grade. These assignments will be posted on eLC. The homework assignments will help you practice the analytical techniques introduced in class and are typically the best way to learn the material. You must attempt to work through *as much of the homeworks as possible on your own*, and then work with other students only when you are stuck or want to check your answers. That will help you learn. Furthermore, write up your own answers neatly, using your own words, derivations, and explanations. You will probably have to re-write your homeworks before turning them in.

Honor Code: All academic work must meet the standards contained in “A Culture of Honesty.” Students are responsible for informing themselves about these standards before performing academic work. The penalties for academic dishonesty are severe and ignorance is not an acceptable defense. Also note that the course syllabus is a general plan for the course and that deviations announced to the class by the instructor may be necessary.

<u>Assignment</u>	<u>Due Date</u>	<u>Percent</u>
Perusall	weekly	10%
Homework 1 (social choice)	Jan 29	90%
Homework 2 (game theory)	Feb 12	
Homework 3 (incomplete & N-player Games)	Mar 18	
Homework 4 (repeated games)	Mar 25	
Homework 5 (spatial voting)	Apr 29	v

I generally think of 90-100 as an A, 80-90 as a B, etc., but since the university uses a plus minus system I use the following scale for overall grades:

B+	88-89.99	A	92 or above	A-	90-91.99
C+	78-79.99	B	82-87.99	B-	80-81.99
D+	68-69.99	C	72-77.99	C-	70-71.99
F	59.99 or below	D	62-67.99	D-	60-61.99

Make-Ups: Homework assignments require a fair amount of analysis time. Please plan ahead to avoid turning them in late. **Late assignments will be lowered one letter grade for every day they are late.** If an assignment is late, upload it on ELC, then send me an email noting that it is posted. Please plan ahead to avoid unnecessary late penalties.

Readings

All readings will be on Perusall (see above). Because most learning occurs when you solve problems on your own, you might want to read the theoretical works slower and use a pencil and paper to work out the logic of the argument. I also included a few recommended readings which should help you understand the material from a different angle. Try those when something seems confusing or you want more depth.

If you want to purchase books, in addition to reading them on Perusall, you can buy the following from the bookstore.

1. Dixit, Avinash, Susan Skeath, and David McAdams (2020) *Games of Strategy, 5th ed.* New York: W.W. Norton – earlier editions are acceptable though the chapter numbers may differ.
2. Olson, Mancur (1971) *The Logic of Collective Action.* New York: Harvard University Press.
3. Munger, Michael and Kevin Munger (2015) *Choosing in Groups: Analytical Politics Revisited.* New York: Cambridge University Press.

Schedule of Topics and Readings

note: [+] = difficult, but technically correct.
[-] = easier to understand.
[&] = application to a substantive area.

I. INTRODUCTION

Jan 8 Introduction to Logic

Strongly Recommended:

*[Introduction to Propositional Logic](#) (watch a couple in the series).

Recommended:

*[Truth tables by Oscar Levin](#) – practice some before looking at answers.

*[More truth tables](#).

Jan 15 No Class. MLK Day!

II. SOCIAL CHOICE THEORY

Jan 22 Problems with Preference Aggregation

Required:

*Munger and Munger, “The Social Choice Problem: Impossibility,” Ch 7, *Choosing in Groups*.

*Potthoff, Richard F., and Michael C. Munger. 2021. “Condorcet Loser in 2016: Apparently Trump; Condorcet Winner: Not Clinton?” *American Politics Research* 49(6): 618-636.

Recommended:

Dardanoni, Valentino. 2001. “A pedagogical proof of Arrow's Impossibility Theorem” *Social Choice and Welfare*, 18: 107–112.

Dixit, Skeath and McAdams, Ch 16, “Strategy and Voting” *Games of Strategy*, 5th edition (pp. 627-652, stop at MVT) [-].

Dougherty, Keith L., & Heckelman, Jac C. 2020. “The probability of violating Arrow’s conditions,” *European Journal of Political Economy*, 65, 101936.

Hodge, Jonathan K. and Richard E. Klima. 2005. *The Mathematics of Voting and Elections: a hands-on approach*. American Mathematical Society [-].

Riker, William. 1958. “The Paradox of Voting and Congressional Rules for Voting on Amendments.” *APSR*. 52 (June): 349-366 [&, -].

Riker, William. 1988. *Liberalism Against Populism: A Confrontation Between the Theory of Democracy and the Theory of Social Choice*. New York: Waveland Press.

Woon, Jonathan, et al. 2020. "Trump is not a (Condorcet) loser! Primary voters' preferences and the 2016 Republican presidential nomination." *PS: Political Science & Politics* 53(3): 407-412.

III. GAME THEORY

Jan 29 Games with Sequential Moves

Required:

*Dixit, Skeath and McAdams, Ch 2, "How to Think About Strategic Games"

*Dixit, Skeath and McAdams, Ch 3, "Games with Sequential Moves."

Recommended:

Morrow, James. 1994. *Game Theory for Political Scientists*. New York: Princeton University Press, Ch 4 and Ch 5.

Luce, Duncan R. and Howard Raiffa. 1989. *Games and Decisions*. New York: Dover Publications Inc.

Straffin, Phillip D. 1993. *Game Theory and Strategy*. The Mathematical Association of America [-].

Watson, Joel. 2007. *Strategy: An Introduction to Game Theory, 2nd Edition*. New York: W. W. Norton.

Feb 5 Games with Simultaneous Moves

Required:

*Dixit, Skeath and McAdams, Ch 4, "Simultaneous Move Games: Discrete Strategies"

Recommended:

Dixit, Skeath and McAdams, Ch 5 "Simultaneous Move Games: Continuous Strategies, Discussion, and Evidence" and Ch 6, "Combining Sequential and Simultaneous Moves."

Recommended books from last week.

Feb 12 Applications: Reform in Latin America and Marbury v Madison

Required:

*Geddes, Barbara. 1991. "A game theoretic model of reform in Latin American democracies." *APSR*, 85(2): 371-392.

*Clinton, Robert L. 1994. "Game Theory, Legal History, and the Origins of Judicial Review: a revisionist analysis of Marbury v Madison," *AJPS*, 38(2):285-302.

Feb 19 **Incomplete Information Games: The Cuban Missile Crisis**

Required:

*Dixit, Skeath and McAdams, Ch 9, "Uncertainty and Information."

*Dixit, Skeath and McAdams, Ch 13, "Brinkmanship: The Cuban Missile Crisis."

Recommended:

Bates, Robert. 1998. "The International Coffee Organization: An International Institution" in Robert Bates et. al. Eds. *Analytic Narratives*. Princeton: Princeton University Press. p. 194-230 [&, -].

Bueno De Mesquita, Bruce. 1990. "Pride of Place: The Origins of German Hegemony," *World Politics*, 43(1): 28-52 [&, -].

Bueno de Mesquita, Bruce. 1981. *The War Trap*. New Haven: Yale University [&, -].

Bueno de Mesquita, Bruce and David Lalman. 1992. *War and Reason*. New Haven: Yale University Press [&].

Bueno de Mesquita. Bruce, James D. Morrow, Randolph M. Siverson, and Alastair Smith. 1999. "An Institutional Explanation of the Democratic Peace" *APSR*, 93 (4): 791-807 [&].

Enders, Walter and Todd Sandler. 1993. "The Effectiveness of Antiterrorism Policies: A Vector-Autoregression-Intervention Analysis." *APSR*, 87(4) 829-844 [&, +].

Nicholson, Michael. 1989. *Formal Theories in International Relations*. New York: Cambridge University Press [&].

Morrow, James. 1994. "Alliances, Credibility, and Peacetime Costs," *Journal of Conflict Resolution*, 38(2): 270-297.

Morrow, James. 1989. "Capabilities, Uncertainty, and Resolve: A Limited Information Model of Crisis Bargaining" *AJPS*, 33(4): 941-972.

Feb 26 **N-Player Games and International Alliances**

Required:

*Dixit, Skeath and McAdams, Ch 11, "Collective Action Games."

*Olson, Mancur and Richard Zeckhauser. 1966. "An Economic Theory of Alliances" *The Review of Economics and Statistics*, 48(3): pp. 266-279.

*Sandler, Todd and Keith Hartley. 2001, "Economics of Alliances: The Lessons for Collective Action" *Journal of Economic Literature*, 39: 869-896.

Recommended:

*Olson, Mancur. 1965. *The Logic of Collective Action*. Cambridge, MA: Harvard University Press [-].

Oppenheimer, Joe. 2012. *Principles of Politics: A Rational Choice Theory Guide to Politics and Social Justice*, New York: Cambridge University Press [-].

Opp, Karl-Dieter. 1986. "Soft Incentives and Collective Action: Participation in the Anti-Nuclear Movement." *British Journal of Political Science*, 16(1): 87-112 [&].

Ostrom, Elinor. 1990. *Governing the Commons*. New York: Cambridge University Press [&, -].

Sandler, Todd. 1992. *Collective Action*. Ann Arbor: University of Michigan Press [&].

Tiebout, Charles M. 1956. "A Pure Theory of Local Expenditures" *Journal of Political Economy* 64 (October): 416-24 [-].

Mar 4 No Class! Spring Break

Mar 11 Application: Political Machines

Required:

*Cain, Michael C.J. and Keith L. Dougherty. 1999. "Suppressing Shays' Rebellion: Collective Action and Constitutional Design under the Articles of Confederation," *Journal of Theoretical Politics*. 11(2): 233-260.

*Reichley, James. 2000. *The Life of the Parties*. New York: Rowman & Littlefield, Chs 7 & 10; pages 140-160 & 202-220.

*Heckelman, Jac. 1995. "The Effect of the Secret Ballot on Voter Turnout Rates," *Public Choice*, 82: 107-124.

Recommended:

*Dougherty, Keith L. 2009. "An Empirical Test of Federalist and Anti-Federalist Theories of State Contributions, 1775-1783," *Social Science History*, 33(1): 47-74.

Keohane, Robert O. 1984. *After Hegemony: cooperation and discord in the world political economy*. Princeton, N.J. : Princeton University Press [&, -].

Snidel, Duncan. 1985. "The Limits of Hegemonic Stability Theory." *International Organization*. 39: 579-614 [&, -].

Enders, Walter and Todd Sandler. 1993. "The Effectiveness of Antiterrorism Policies: A Vector-Autoregression-Intervention Analysis." *APSR*, 87(4) 829-844 [&, +].

Sandler, Todd. 1993. "The Economic Theory of Alliances." *Journal of Conflict Resolution*. 37: 446-483 [&, -].

Aldrich, John H. 1993. "Rational Choice and Turnout" *AJPS*, 37 (1): 246-278.

Brennan, Geoffrey and Loren Lomasky. 1997. *Democracy and Decision: the pure theory of electoral preference*. New York: Cambridge University Press.

Grafstein, Robert (2002) "What Rational Political Actors Can Expect," *Journal of Theoretical Politics*, 14(2): 139-165.

Jones, Philip and John Hudson (2000) "Civic Duty and Expressive Voting: Is Virtue Its Own Reward?" *Kyklos*, 53(1): 3-16.

Knack, Stephen. 1992. "Civic Norms, Social Sanctions, and Voter Turnout" *Rationality and Society*, 4: 133 - 156.

Riker, William H. and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting," *APSR*, 62 (1): 25-42.

Mar 18 Repeated Games

Required:

*Dixit, Skeath and McAdams, Ch 10, “The Prisoners’ Dilemma and Repeated Games.”

*Discount Factors (video)

*Geometric Series and Infinite Payoffs (video)

Recommended:

Joel Watson, 1997, Ch 22, “Repeated Games and Reputation,” *Strategy: An Introduction to Game Theory*.

III. SINGLE DIMENSIONAL SPATIAL VOTING

Mar 25 The Median Voter Theorem

Required:

*Hinich and Munger, Ch 2, “The Spatial Model of Downs and Black,” *Analytical Politics*.

*Poole, Keith and Howard Rosenthal, 1997. *Congress: A Political-Economic Theory of Roll Call Voting*, Ch 2.

*Bonneau, Chris et. al. 2007 “Agenda Control, the Median Justice, and the Majority Opinion on the U.S. Supreme Court” *AJPS* 51: 890-905.

Recommended:

Black, Duncan. 1951. *Theory of Committees and Elections*. London: William Hodge [-].

Enelow, James and Melvin Hinich. 1984. *The Spatial Theory of Voting*. New York: Cambridge: University Press [+].

Farquharson, Robin. 1969. *Theory of Voting*. New Haven: Yale University Press.

Gerald Strom. 1990. *The Logic of Lawmaking: a Spatial Theory Approach*. Baltimore: Johns Hopkins [- , &].

Stewart, Charles. 2001. *Analyzing Congress*. New York: W.W. Norton [- , &].

Apr 1 Application: Pivotal Politics

Required:

*Gehlbach, Scott. 2013. *Formal Models of Domestic Politics*, Ch 4, “Veto Players.”

*Krehbiel, Keith. 1998. *Pivotal Politics*, Ch 3, “Gridlock.”

Recommended:

Eskridge, William and John Ferejohn. 1992. “Making the Deal Stick: Enforcing the Original Constitutional Structure of Lawmaking in the Modern Regulatory State” *Journal of Law, Economics, and Organization*. 8(1): 165-89.

- Eavy, Cheryl L. and Gary J. Miller. 1978. "Bureaucratic Agenda Control: Imposition or Bargaining?" *APSR*. 78 (Dec): 719-733 [&, -].
- Gehlbach, Scott. 2013. *Formal Models of Domestic Politics*, chapter 4. New York: Cambridge University Press [-].
- Maltzman, Forrest, James F. Spriggs II, and Paul J. Wahlbeck. 2000. *Crafting law on the Supreme Court: the collegial game*. New York: Cambridge University Press [&].
- Morgan, Clifton. 1984. "A Spatial Model of Crisis Bargaining." *International Studies Quarterly*, 28: 407-26 [&, -].
- Segal, Jeffrey A., Charles M. Cameron, Albert D. Cover. 1992. "A Spatial Model of Roll Call Voting: Senators, Constituents, Presidents, and Interest Groups in Supreme Court Confirmations," *AJPS*, 36(1) 96-121.

Apr 8 Application: Downs' Model of Popular Elections

Required:

- *Downs, Anthony 1957. "An Economic Theory of Political Action in a Democracy" *The Journal of Political Economy*, 65(2): 135-150.
- *Munger and Munger, *Analytical Politics*, Ch 6, "Uncertainty and Policy Preference."
- *The 2020 Election (ballotpedia), also consider wikipedia
- *The 2024 Election (ballotpedia), also consider wikipedia

Recommended:

- Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper and Row [&, -].
- Heckelman, Jac. 2004. "A Spatial Model of U.S. Senate Elections," *Public Choice*, 118: 87-103.
- Riker, William. 1982. "The Two-Party System and Duverger's Law: An Essay on the History of Political Science," *APSR*.76: 753-766 [&, -].
- Morton, Rebecca. 2006. *Analyzing Elections*. New York: W.W. Norton.

IV. MULTIDIMENSIONAL SPATIAL VOTING

Apr 15 The Chaos Theorem

Required:

- *Hinich and Munger, Ch 3, "Two Dimensions: Elusive Equilibrium," *Analytical Politics*.
- *Stewart, *Analyzing Congress*, Chapter 1 (pp. 33-35).

Recommended:

- Feld, Scott, Bernard Grofman, and Nicholas Miller. 1989. "Limits on Agenda Control in Spatial Voting Games" *Mathematical Computational Modeling*, 12(4/5): 405-416 [-].
- Hinich, Melvin and Michael Munger. 1997. *Analytic Politics*, Ch 4, "Multiple Dimensions: Weighted Euclidean Distance."

- Hinich, M.J. and Michael C. Munger. 1994. *Ideology and the Theory of Political Choice*. Ann Arbor: University of Michigan [&].
- McKelvey, Richard D. 1976. "Intransitivities in Multidimensional Voting Models and Some Implications for Agenda Control." *Journal of Economic Theory*. 12: 472-84 [+].
- McKelvey, Richard. 1979. "General Conditions for Global Intransitivities in Formal Voting Models." *Econometrica*. 47 (5): 1085-1112 [+].
- Poole, Keith T. 2005. *Spatial Models of Parliamentary Voting: Analytical Methods for Social Research*. New York: Cambridge University Press.
- Poole, Keith T. and Howard Rosenthal. 1997. *Congress: A Political-Economic History of Roll Call Voting*. New York: Oxford University Press.
- Poole, Keith T. and Howard Rosenthal. 1985. "A Spatial Model for Legislative Roll Call Analysis." *AJPS*. 29: 357-84 [+].

Apr 22 The Core and Stopping Rules in Committees

Required:

- *Ordeshook. 1986. *Game Theory and Political Theory*, sections 8.1 & 8.2 – focus on calculating the core in a spatial voting game. Skip alpha and beta core.
- *Dougherty et al., 2018. "Stopping Rules for Majority Voting: A Public Choice Experiment," *Journal of Economic Behavior and Organization*.

Recommended:

- Banks, Jeffrey and John Duggan. 2000. "A bargaining model of collective choice." *American Political Science Review*. 94 (1): 73–88.
- Banks, Jeffrey and John Duggan. 2006. "A general bargaining model of legislative policy-making." *Quarterly Journal of Political Science* 1 (1): 49–85.
- Dougherty, Keith L. And Julian Edward. 2012. "Voting for Pareto optimality: a multidimensional analysis." *Public Choice* 151 (3): 655–678 .
- Fiorina, Morris and Charles Plott. 1978. "Committee decisions under majority rule: an experimental study." *American Political Science Review*. 72 (2): 575–598 .
- McKelvey, Richard, 1991. "An experimental test of a stochastic game model of committee bargaining." In: Palfrey, T. (Ed.), *Laboratory Research in Political Economy*. University of Michigan Press, Ann Arbor, pp. 139–168 .
- McKelvey, Richard and Peter Ordeshook. 1984. "An experimental study of the effects of procedural rules on committee behavior.: *Journal of Politics*, 46 (1): 182–205 .
- Sauermann, Jan. 2017. "Do individuals value distributional fairness? how inequality affects majority decisions." *Political Behavior*, 40(4): 809-829.

Apr 29 Application: Cycles at the Constitutional Convention and The Election of 1824.

Required:

- Ballingrud, Gordan and Keith Dougherty. 2018. "Coalitional Instability and the Three-Fifths Compromise," *AJPS*, 6(2): 861-72.
- Jenkins, Jeffery and Brian Sala. 1998. "The Spatial Theory of Voting and the Presidential Election of 1824." *AJPS*, 42 (4): 1157- 1179 [&].

Recommended:

- Andrews, Josephine. 2002. *When Majorities Fail The Russian Parliament, 1990–1993*. New York: Cambridge University Press [&].
- Dougherty, Keith and Jac Heckelman. 2007. "An Economic Interpretation of the Constitutional Convention of 1787 Revisited," *The Journal of Economic History*, 67(4): 829-48.
- Döring, H. ed. 1995. *Parliaments and Majority Rule in Western Europe*. New York: St. Martin's Press, 488-527.
- Heckelman, Jac and Keith Dougherty. 2008. "Voting on Slavery at the Constitutional Convention," *Public Choice*, 2008, 136 (3-4): 293-313.
- Jillson, Calvin and Rick K. Wilson. 1994. *Congressional dynamics: structure, coordination, and choice in the first American Congress 1774-1789*. Stanford, CA: Stanford University Press [&].
- Krehbiel, Keith. 1988. "Spatial Models of Legislative Choice," *Legislative Studies Quarterly* 13 (3, Aug) [& , -].
- Poole, Keith T. and Howard Rosenthal. 1998. *Congress: A Political-Economic History of Roll-Call Voting*. New York: Oxford University Press [&].
- Riker, William H. 1962. *The Theory of Political Coalitions*. New Haven: Yale University Press [-].
- Shepsle, Kenneth A. and Barry R. Weingast. 1981. "Structure Induced Equilibrium and Legislative Choice." *Public Choice*. 37: 503-19 [&].
- Weingast, Barry and Kenneth A. Shepsle. 1995. *Positive Theories of Congressional Institutions*. Ann Arbor: University of Michigan Press.
- Tsebelis, George. 1999. "Veto Players and Law Production in Parliamentary Democracies: An Empirical Analysis" *APSR*, 93 (3): 591-608.
- Tsebelis, George. 2002. *Veto Players: how political institutions work*. Princeton, N.J.: Princeton University Press.