

POLS 8000  
Wed. 3:30-6:15 p.m.  
Baldwin 104  
Spring, 2022

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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 in 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, 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 pivotal voters 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.

### **COVID**

Students showing COVID-19 symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5p.m.). Please DO NOT walk-in. If you test positive for COVID-19, you are required to report it through [DawgCheck](#). DawgCheck will tell you how long you need to isolate and when you can return to class. If you have been exposed to COVID-19 but do not show any symptoms, 1) you don't need to quarantine if you have been fully vaccinated, but 2) you need to quarantine for 14 days if you have not been vaccinated. If you need additional help, reach out to Student Care and Outreach ([sco@uga.edu](mailto:sco@uga.edu)) for assistance.

### **Grading**

Graduate students should focus on learning, not grades. Nevertheless, your grade consists of six homework assignments, one of which is a five-page research paper. Each assignment is worth the same amount though some are easier than others. I will drop your two lowest grades, then assign the average of the remaining four grades as your overall 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.

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>Date</u>
HOMEWORK 1 (social choice)	Jan 26
HOMEWORK 2 (game theory)	Feb 9
HOMEWORK 3 (incomplete & n-player games)	Mar 16
HOMEWORK 4 (repeated games)	Mar 30
HOMEWORK 5 (spatial voting)	Apr 16
HOMEWORK 6 (research paper)	Apr 27

#### 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 working day they are late.** If an assignment is late, it would be a good idea to stick it under my office door (Baldwin 408) as soon as possible to avoid any unnecessary late penalties. Please plan ahead.

#### Required Texts

We will read both theoretical and substantive works in this course which vary in length. 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.

The following required books can be purchased from the campus book store.

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.

4. Additional chapters and articles will be in the dropbox set up for the course. They are marked with **DB** below. I will send you directions on how to sign up for dropbox to your uga email address shortly after the class begins. It's free. If any of the electronic readings require a password, it will be "dougherty", all lower case.

### Schedule of Topics and Readings

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

## I. INTRODUCTION

### Jan 12 Introduction to Logic

Required:

\*[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](#).

## II. SOCIAL CHOICE THEORY

### Jan 19 Decision Theory and Problems with Preference Aggregation

Required:

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

\*Dixit, Skeath and McAdams, Ch 16, "Strategy and Voting" (627-652, stop at MVT).

\*Kurrild-Klitgaard, *Trump, Condorcet and Borda: Voting paradoxes in the 2016 Republican presidential primaries*, **DB**

Recommended:

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

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 [-].

Miller, Nicholas. 1983. "Pluralism and Social Choice," *APSR*. 77 (3): 734-747 [-].

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. Sen, *Collective Choice and Social Welfare*, Chs 1-4, **DB**.

### **III. GAME THEORY**

#### **Jan 26 Games with Sequential Moves**

Required:

\*Dixit, Skeath and McAdams, Ch 2, “How to Think About Strategic Games” and 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 2 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 9 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, **DB**.

\*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, **DB**.

## Feb 16 **Incomplete Information Games: The Cuban Missile Crisis**

### Required:

Dixit, Skeath and McAdams, Ch 9, "Uncertainty and Information," and 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 23 **Collective Action and N-Player Games**

### Required:

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

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

### Recommended:

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 3 Application: Voter Turnout and the 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, **DB**.
- Reichley, James. 2000. *The Life of the Parties*. New York: Rowman & Littlefield, Chs 7 & 10; pages 140-160 & 202-220, **DB**.
- Heckelman, Jac. 1995. "The Effect of the Secret Ballot on Voter Turnout Rates," *Public Choice*, 82: 107-124, **DB**.

Recommended:

- 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 9 No Class! Spring Break**

**Mar 16 Application: International Alliances**

Required:

- \*Olson, Mancur and Richard Zeckhauser. 1966. "An Economic Theory of Alliances" *The Review of Economics and Statistics*, 48(3): pp. 266-279, **DB**.
- \*Sandler, Todd and Keith Hartley. 2001, "Economics of Alliances: The Lessons for Collective Action" *Journal of Economic Literature*, 39: 869-896, **DB**.
- \*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, **DB**.

Recommended:

- 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 [&, -].

### **Mar 23 Repeated Games**

Required:

\*Dixit, Skeath and McAdams, Ch 10, "The Prisoners' Dilemma and Repeated Games."

Recommended:

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

## **III. SINGLE DIMENSIONAL SPATIAL VOTING**

### **Mar 30 The Median Voter Theorem**

Required:

\*Munger and Munger, *Choosing in Groups*, Ch 5, "Politics as Spatial Competition."

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

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 6 Application: Pivotal Politics**

Required:

\*Gehlbach, Scott. 2013. *Formal Models of Domestic Politics*, Ch 4, "Veto Players," **DB**.

\*Krehbiel, Keith. 1998. *Pivotal Politics*, Ch 3, "Gridlock," **DB**.

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

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 13 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, **DB**.
- \*Munger and Munger, *Analytical Politics*, Ch 8, "Uncertainty."
- \*[The 2000 election](#) (wiki)
- \*[The 2008 Election](#) (wiki)
- \*[The 2016 Election](#) (ballotpedia), also consider wikipedia
- \*[The 2020 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 20 The Chaos Theorem & Empirical Estimates of Ideal Points**

Required:

- \*Munger and Munger, *Choosing in Groups*, Ch 6, "Two Dimensions: Elusive Equilibrium."



\*Poole, Keith. 2000. "Non-Parametric Unfolding of Binary Choice Data." *Political Analysis* 8: 211-237, **DB**.

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 27 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, **DB**.

Jenkins, Jeffery and Brian Sala. 1998. "The Spatial Theory of Voting and the Presidential Election of 1824." *AJPS*, 42 (4): 1157- 1179 [ & ], **DB**.

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.