

POLS 8000  
Wed. 3:35-6:35 p.m.  
Baldwin 104  
Spring, 2018

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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 a lot of 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 competition between Federalists and Antifederalists, Marbury v Madison, the Cuban Missile Crisis, collective action problems, and 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 this model applies to studies of presidential veto power, decisions in the Supreme Court, and Downs theory 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 which should help you appreciate its importance.

#### **Grading**

Your grade consists of four homework assignments and one five-page research paper. All of these assignments will be posted on my web page <[http://spia.uga.edu/faculty\\_pages/dougherk/](http://spia.uga.edu/faculty_pages/dougherk/)>, not e-commons. The homework assignments will help you practice the analytical techniques introduced in class and are typically the best way to learn the material. Each is worth 20% of your overall grade. The purpose of the paper is to help you work on a model that you might use in part of your own research. If you don't have such an idea, you may write on any "approved" topic directly related to the course. I will offer suggestions later in the semester.

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>	<u>Percent of Grade</u>
HOMEWORK 1 (social choice)	Jan 24	20%
HOMEWORK 2 (game theory)	Feb 7	20%
HOMEWORK 3 (n-player games)	Mar 7	20%
HOMEWORK 4 (spatial voting)	Apr 4	20%
RESEARCH PAPER	Apr 25	20%

#### 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. Grades are lowered for every *working day* they are late, not every class day they are late. 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 behind the material. 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 to go more in depth.

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

1. Dixit, Avinash, David H. Reiley, and Susan Skeath (2014) *Games of Strategy, 4th ed.* New York: W.W. Norton – earlier editions are acceptable though the chapter numbers may be off.
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 10 Introduction to Logic

Required:

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

\*[A test of what you know.](#)

Recommended:

\*[A little more on-line logic.](#)

## II. SOCIAL CHOICE THEORY

### Jan 17 Decision Theory and Problems with Preference Aggregation

Required:

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

\*Sen, *Collective Choice and Social Welfare*, Chs 1-4 (starred sections are totally optional. I included them in case you want to go in depth), **DB**.

\*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.

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.

## III. GAME THEORY

### Jan 24 Games with Sequential Moves

Required:

\*Dixit, Reiley, and Skeath, 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.

**Jan 31 Games with Simultaneous Moves**

Required:

- \*Dixit, Skeath, and Reiley, Ch 4, “Simultaneous Move Games: Discrete Strategies”

Recommended:

- Dixit, Reiley, and Skeath, Ch 5 “Simultaneous Move Games with Pure Strategies II” and Ch 6, “Combining Sequential and Simultaneous Moves.”
- Recommended books from last week.

**Feb 7 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 14 Incomplete Information Games: The Cuban Missile Crisis**

Required:

- Dixit, Reiley, and Skeath, Ch 9, “Uncertainty and Information,” and Ch 14, “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 21 Collective Action and N-Player Games**

### Required:

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

## **Feb 28 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 7 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 14 No Class. Spring Break!**

**Mar 21 Repeated Games**

Required:

- \*Dixit, Skeath, and Reiley, 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 28 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 4 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.

## IV. MULTIDIMENSIONAL SPATIAL VOTING

### Apr 11 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 18 Application: Pivotal Voting at the Constitutional Convention and The Election of 1824.

#### Required:

- Ballingrud, Gordan and Keith Dougherty. 2018. “Coalitional Instability and the Three-Fifths Compromise,” *AJPS*, (forthcoming), **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.

**Apr 25 Application: Government Formation in Parliaments**

Required:

- \*Baron, David P. 1991. "A spatial bargaining theory of government formation in parliamentary systems." *APSR*, 85(1): 137-164, **DB**.
- \*Martin, Lanny W., and Randolph T. Stevenson. 2001. "Government formation in parliamentary democracies." *AJPS*, 45(1): 33-50, **DB**.

Recommended:

- Baron, David P., and Daniel Diermeier. 2001. "Elections, governments, and parliaments in proportional representation systems." *Quarterly Journal of Economics*, 116 (3): 933-967.
- Baron, David. and John Ferejohn. 1989. "Bargaining in Legislatures," *American Political Science Review*, 83(4): 1181-1206.
- Eguia, Jon X. 2013. "The Origin of Parties: The United States Congress in 1789-1797 as a Test Case." *Economics & Politics*, 25(3): 313-334 [ & ].
- Kahan, James P. and Amnon Rapoport. 2014. *Theories of Coalition Formation*. New York: Psychology Press.