POLS 8000   Dr. Keith Dougherty
Mon. 2:55-5:35 p.m.   Office: Baldwin 408, (706) 542-2989
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Spring 2026   http://spia.uga.edu/faculty_pages/dougherk/

An Introduction to Rational Choice

This class is your high-octane introduction to Rational Choice Theory – a lens for understanding human behavior in politics, economics, and law. Our emphasis is not just on abstract ideas, but on the theory can illuminate problems in both domestic and international politics. While this course is core for students in Political Science and International Affairs, the material's intellectual rigor makes it useful for go-getters in Public Administration, Economics, Law, and other social sciences. No prior knowledge is required, but be prepared to move at a rapid pace. I assume you have a strong aptitude for abstract reasoning and the basic algebra that are needed to tackle these powerful concepts. Required readings are followed by recommended readings for go-getters that want 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, which is a study of strategy, 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, repeated 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 mass elections. We will then extend our single dimensional model to multiple dimensions and learn mind-bending anomalies such as McKelvey's Chaos Theorem. We will put these theories to the test with an in-class experiment on voting in committees. By the end of this course, you will not just understand rational choice theory, you will have a new analytical framework for solving social scientific problems.

Polling
Occasionally we will use Google Forms for in-class polling. I won't know who answered a question nor record individual responses. Google Forms shows us group opinion in real time. If the QR-codes don't work, use this https://forms.gle/M2sePUH1oecuCyTR7.

AI Software
The use of artificial intelligence (AI) tools like ChatGPT, Copilot, or similar generative AI systems is strictly prohibited in this course for any part of an assignment, including brainstorming, writing, or editing. This policy facilitates your learning of game theory, which at times requires struggling.

Grading
Graduate students should focus on learning, not 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 Persuall grade will be based on your reading and online discussion of those readings that you contribute to 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 simple 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) must be completed before the relevant class, which you can get to by clicking 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.

Assignment	Due Date	Percent
Perusall	weekly	10%
Homework 1 (social choice)	Feb 2	90%
Homework 2 (two-person games)	Feb 16	|
Homework 3 (incomplete & n-player games)	Mar 23	|
Homework 4 (repeated games)	Mar 30	|
Homework 5 (spatial voting)	May 1	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:

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

Late Assignments: 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. 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 some of the problems or 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 you want more depth.

If you want to purchase books, in additional to reading them on Perusall, you can buy the following from the bookstore (optional).

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 12   Introduction and Apportionment

Required:
*Hodge and Kilma, Ch 11, "Proportional (Mis)representation"

Jan 19   No Class. MLK Day!

II. SOCIAL CHOICE THEORY

Jan 26   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

Feb 2 **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 9 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."

Feb 16   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 23   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.

Mar 2   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 9   No Class! Spring Break

Mar 16   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 23   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 30   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 6   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 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.

*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 20   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 Multidimenasional 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   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.

CLASSROOM AND UNIVERSITY POLICIES

Disclaimer

This syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

Student Honesty

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.

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 students 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.