

POLI 7964: Introduction to Rational Choice and Formal Modeling in the Social Sciences

Mondays 1:30-4:20pm Spring 2014
210 Stubbs Hall

Instructor

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Office Hours: Tuesdays 1:15-3:15pm, or by appointment

Course Description: This course will introduce students to the basic principles and theories of rational choice theory and formal modeling, familiarize them with examples of their use in social science research, and also address criticisms and defenses of their role in the discipline. It is intended for students who possess no prior experience with either of these concepts, although familiarity with algebra, statistics and calculus will be beneficial. By the end of the course students are expected to be able to identify the foundational concepts and theories relating to both rational choice and formal modeling, construct and analyze basic models, provide constructive feedback on models used in the contemporary discipline of political science, and be knowledgeable of seminal works in the field utilizing these approaches.

General Statement on Academic Integrity:

Louisiana State University adopted the Commitment to Community in 1995 to set forth guidelines for student behavior both inside and outside of the classroom. The Commitment to Community charges students to maintain high standards of academic and personal integrity. All students are expected to read and be familiar with the LSU Code of Student Conduct and Commitment to Community, found online at www.lsu.edu/saa. It is your responsibility as a student at LSU to know and understand the academic standards for our community.

Students who are suspected of violating the Code of Conduct will be referred to the Office of Student Advocacy and Accountability. For undergraduate students, a first academic violation could result in a zero grade on the assignment or failing the class and disciplinary probation until graduation. For a second academic violation, the result could be suspension from LSU. For graduate students, suspension is the appropriate outcome for the first offense.

Plagiarism and Citation Method:

As a student at LSU, it is your responsibility to refrain from plagiarizing the academic property of another and to utilize appropriate citation method for all coursework. Ignorance of the citation method is not an excuse for academic misconduct. Remember there is a difference between paraphrasing and quoting and how to properly cite each respectively. If you have questions regarding what is appropriate, please consult with the library's tutorials on avoiding plagiarism and proper citation formats (links are also provided on the course *Moodle* page).

Group work and unauthorized assistance:

All work must be completed without assistance unless explicit permission for group or partner work is given by the faculty member. This is critical so that the professor can assess your performance on each assignment. If a group/partner project is assigned, the student may still have individual work to complete. Read the syllabus and assignment directions carefully. You might have a project with group work and a follow up report that is independently written. When in doubt, e-mail the faculty member or ask during a class session. Seeking clarification is your responsibility as a student. Assuming group/partner work is okay without permission constitutes a violation of the LSU Code of Student Conduct.

Students requiring special accommodation: Louisiana State University is committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability needing academic adjustments is requested to speak with the Disability Services and the instructor, as early in the semester as possible. All discussions will remain confidential. This publication/material is available in alternative formats upon request. Please contact the Disability Services, 115 Johnston Hall, (225) 578-5919.

Course Expectations:

A few notes on participation:

1. All students are expected to participate in class discussions. Students are therefore expected to come to class prepared, having read all of the assigned material for that week.
2. Many of the issues and approaches utilized in international relations are subject to debate. Students are therefore encouraged to question the material in a thoughtful and respectful manner. No student will be penalized for presenting an argument which questions the material presented; all perspectives are welcome, although they are also fair game for class discussion and debate.
3. In order to facilitate class discussion and preserve an environment in which all students are encouraged to participate, please keep your class contributions directed at the material and arguments presented and not at fellow class members. Comments of a personal nature directed against fellow students will not be tolerated.

Course Textbook:

Osborne, Martin J. 2004. *An Introduction to Game Theory*. New York: Oxford University Press.

Additional Course Readings:

- Axelrod, Robert. 1984. *The Evolution of Cooperation*. Basic Books.
Gilboa, Itzhak. 2010. *Rational Choice*. Cambridge, MA: MIT Press.
Green, Donald and Ian Shapiro. 1996. *Pathologies of Rational Choice Theory*. New Haven, CT : Yale University Press.
Schelling, Thomas C. 1980. *The Strategy of Conflict*. Cambridge, MA: Harvard University Press (Reprint)

Grading Policy: The grading breakdown is as follows:

A: 90-100% B: 80-89% C: 70-79% D: 60-69% F: 59% or below

Class Participation: 15%

Weekly Assignments: 25%

End of Semester Model Assignment: 35%

Student Model Referee Analysis: 25%

Class participation will be evaluated based upon student contributions to the classroom discussion as well as participation in office hours. Attendance at class and (optionally) office hours will increase class participation, as will contributions which demonstrate that the student has prepared for class by reading the necessary materials. Non-class related laptop usage, inattentiveness, or other disruptions to the classroom environment will reduce the class participation grade.

Weekly assignments will be given during Part II of the course. These will jointly constitute 25% of the student's course grade. Students may work collaboratively on these assignments, given the following conditions:

- 1) Only one submission per group will be accepted
- 2) Each student who participated in the collaborative effort must be listed on the submission
- 3) There is no limit to group size, but group homework submissions will be subject to a scoring adjustment wherein each incorrect point will be multiplied by 1.26^n , where n represents the number of group members and $n > 1$.

End of Semester Model Assignment: Each student will develop a simple model relevant to his or her field of study and submit the model description, solution, and analysis in class by the date noted in the syllabus. The student will then present their model to the class in the final class meeting of the term.

Student Model Referee Exercise: Each student will be assigned another student's model submission for purposes of review. The reviewing student will evaluate the model as though it was being considered for publication, and submit a written report to the course instructor and the student who designed the model by the final class. The student referee will then also report their analysis to the class following the in-class presentation.

Course Outline & Reading Schedule**Week 2: 1/20/14 - Martin Luther King Jr. Day – No Class****I. Rational Choice****Week 3: 1/27/14 – Course Introduction and Opening Discussion**

Slate.com – “Winning the Price is Right”

Gilboa, Chapter 1

Week 4: 2/3/14 – The Technical Construction of Rational Behavior

Osborne, Chapter 1

Gilboa, Chapters 2-5

Tversky, Amos and Daniel Kahneman. 1974. Judgment Under Uncertainty: Heuristics and Biases. *Science* 185(4157): 1124-1131.

Suggested Additional Readings

Tsebelis, George. 1989. The Abuse of Probability in Political Analysis: The Robinson Crusoe Fallacy. *The American Political Science Review* 83(1): 77-91.

Week 5: 2/10/14 – The Role of Rationalism in the Social Sciences

Fearon, James and Alexander Wendt. 2002. “Rationalism vs. Constructivism: A Skeptical View”. In *Handbook of International Relations*. Eds Carlsnaes, Walter, Thomas Risse and Beth A. Simmons. Thousand Oaks, CA: Sage.

Johnson, James. 2010. What Rationality Assumption? Or, How “Positive Political Theory” Rests on a Mistake. *Political Studies* 58: 282-299.

MacDonald, Paul K. 2003. Useful Fiction or Miracle Maker: The Competing Epistemological Foundations of Rational Choice Theory. *American Political Science Review* 97(4): 551-565.

McLean, Iain. 1991. Rational Choice and Politics. *Political Studies* 39(3): 496-512.

Myerson, Roger B. 1992. On the Value of Game Theory in Social Science. *Rationality and Society* 4(1): 62-73.

Yee, Albert S. 1997. Thick Rationality and the Missing “Brute Fact”: The Limits of Rationalist Incorporation of Norms and Ideas. *The Journal of Politics* 59(4): 1001-1039.

Suggested Additional Readings

Allan, Pierre and Cédric Dupont. 1999. International Relations Theory and Game Theory: Baroque Modeling Choices and Empirical Robustness. *International Political Science Review* 20(1): 23-47.

Mahoney, James. 2000. Rational Choice Theory and the Comparative Method: An emerging synthesis? *Studies in Comparative International Development* 35(2): 83-94.

- Munck, Gerardo L. 2001. Game Theory and Comparative Politics. *World Politics* 53: 173-204.
- Smelser, Neil J. 1992. The Rational Choice Perspective: A Theoretical Assessment. *Rationality and Society* 4(4): 381-410.
- Snidal, Duncan. 1985. The Game Theory of International Politics. *World Politic* 38(1): 25-57.

Week 6: 2/17/14 – Rationalism and Its Discontents: A Cautionary Tale

- Green, Donald and Ian Shapiro. 1996. *Pathologies of Rational Choice Theory*. New Haven, CT : Yale University Press. Chapters 1-3, 8
- Johnson, James. 1996. How Not to Criticize Rational Choice Theory: Pathologies of “Common Sense”. *Philosophy of the Social Sciences* 26(1): 77-91.
- Cox, Gary W. 1999. The Empirical Content of Rational Choice Theory: A Reply to Green and Shapiro. *Journal of Theoretical Politics* 11(2): 147-169.
- Green, Donald and Ian Shapiro. 2005. Revisiting the Pathologies of Rational Choice. In *Flight from Reality in Human Sciences*. Princeton, N.J.: Princeton University Press.

Suggested Additional Readings

- Critical Review: A Journal of Politics and Society - Special Issue: Rational Choice Theory and Politics, Volume 9 Issue 1-2, 1995 (Also published as a book, *The Rational Choice Controversy*)
- Lichbach, Mark Irving. 2003. *Is Rational Choice Theory All of Social Science?* Ann Arbor: University of Michigan Press.

II. Principal Elements of Game Theory with Perfect Information

Week 7: 2/24/14 – Nash Equilibrium

Osborne, Chapter 2

Suggested Additional Reading

Gilboa, Chapter 7

Week 8: 3/3/14 – Mardi Gras Break – No Class

Week 9: 3/10/14 – Nash Equilibrium: Illustrations

Osborne, Chapter 3

Week 10: 3/17/14 – Mixed Strategy Equilibrium

Osborne, Chapter 4

Week 11: 3/24/14 - Extensive Games with Perfect Information

Osborne, Chapter 5

Week 12: 3/31/14 - Extensive Games with Perfect Information: Illustrations
Osborne, Chapter 6

III. Examples from the Literature

Week 13: 4/7/14 - Contemporary Examples of Formal Models

Bapat, Navin A. 2010. A Game Theoretic Analysis of the Afghan Surge. *Foreign Policy Analysis* 6: 217-236

Erlingsson, Gissur Ó. 2005. Modelling Secessions from Municipalities. *Scandinavian Political Studies* 28(2): 141-159.

McDermott, Rose, James H. Fowler and Oleg Smirnov. 2008. On the Evolutionary Origin of Prospect Theory Preferences. *The Journal of Politics* 70(2): 335-350.

Rohde, David W. and Kenneth A Shepsle. 2007. Advising and Consenting in the 60-Vote Senate: Strategic Appointments to the Supreme Court. *The Journal of Politics* 69(3): 664-677.

Week 14: 4/14/14 – Spring Break – No Class

Week 15: 4/21/14 – Classic Pieces Utilizing Formal Models

****End of Semester Model Assignment Due in Class****

Axelrod, Robert. 1984. *The Evolution of Cooperation*. Basic Books.

Fearon, James D. 1995. “Rationalist Explanations for War”. *International Organization* 49(3): 379-414.

Hardin, Garrett. 1968. “The Tragedy of the Commons”. *Science* 162(3859): 1243-1248.

Schelling, Thomas C. 1980. *The Strategy of Conflict*. Cambridge, MA: Harvard University Press (Reprint)

Suggested Additional Readings

Ostrom, Elinor. 1990. *Governing the Commons*. New York: Cambridge University Press.

Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson, and James D. Morrow. 2004. *The Logic of Political Survival*. Cambridge, MA: MIT Press

Week 16: 4/28/14 – Model Presentations

Week 17 – 5/5/14 – Final Exam Week – No Class