

POLS 515: Applied Game Theory

Professor Justin Esarey
Spring 2012

January 20, 2012

Contact Information

103 Tarbutton Hall
Office Phone: 404-727-6583
e-mail: jesarey@emory.edu
Office Hours: M 1:00 - 3:00 PM

The best way to reach me is by e-mail; I have access to my e-mail via phone and computer and should respond within 24 hours of receiving your message.

Class Time and Location

Tuesday 8:30 - 11:30 AM
Tarbutton Hall 116

Course Description

This course is the third in the formal theory sequence offered in the political science department. It considers game theoretic applications to a wide array of substantive questions in political science. It also introduces some techniques and topics not covered in earlier classes. The material is tailored, in part, to student interests. We will evaluate how authors use game models to advance their arguments in the context of research questions, and help students to do the same in their own projects through workshop presentations.

Course Materials

All students must have a valid Emory e-mail address and login (and access to the Blackboard website) to participate in this course.

Grading/Evaluation

Grading Scale

100%-93%: A	76.9%-73%: C
92.9%-90%: A-	72.9%-70%: C-
89.9%-87%: B+	69.9%-67%: D+
86.9%-83%: B	66.9%-60%: D
82.9%-80%: B-	>59.5%: F
79.9%-77%: C+	

Grade Components

- 40% Paper Presentations
 - See the section on weekly presentations for more details
- 60% Formal Modeling Paper
 - 30% for the final product
 - 10% for each workshop presentation
 - See section on research paper assignment for more details

Assignments and Responsibilities

Readings

Please read all assigned materials before coming to class. I will expect that you have read the assignment for the day.

You don't have to fully understand everything in a reading assignment the first time you read it, but you should be familiar with the material. If you don't understand something, feel free to e-mail me with a question, or come to class with a knowledgeable question about what we've read for the day.

Given the structure of the class, you are expected to be most familiar with the reading(s) that you are presenting for that particular week. You should, however, also have a basic familiarity with the other models for that week.

During the final two weeks of the class, the reading assignments will be "students' choice" — each student should nominate one article s/he will present to the class. These articles must be selected and forwarded to Dr. Esarey on or before January 30, 2012. An updated syllabus with the new selections will be issued after that date.

Class Presentations

Each week (except for the first), we will choose two readings out of the set of assigned readings to present in the following week. Students will coordinate a presentation on one paper, and Dr. Esarey will prepare a presentation on the other paper. The students should plan to spend 60-70 minutes presenting the model, including its substantive framing and the technical details of its core findings. Explanation of the assumptions underlying the model, proofs of its important propositions, and derivations of its key comparative statics (where relevant) should all be a part of this presentation. This presentation should make use of active presentation techniques, including presentation software, computer simulation, whiteboard proofs/annotation, etc. The remaining 20-30 minutes will be devoted to a seminar/roundtable discussion of the model, including its substantive implications, relation to other work, and areas toward which future work will be directed.

Students will be graded on their work for the weekly presentation by both their peers and the instructor, including a quantitative assessment of their performance (that will form the basis of the grade) and open-ended suggestions for improvement. Student feedback will be anonymous (that is, students will not know which of their peers assigned them which grades/feedback).

We will start by presenting just two papers a week. If we find that we have time for additional presentations, we can divide the students into two groups and present a total of three papers.

Research Paper

A major portion of the class's coursework will consist of writing a full, publishable paper centered around a novel and innovative formal theory. The paper must employ formal modeling techniques, deriving and testing predictions (e.g., comparative statics) where appropriate.

The topic of the paper is open with respect to substantive field, but the topic must be original and relevant research of topical interest to some substantive community OR (in a rare case) technical research of interest to pure game theorists and/or EITM-oriented methodologists.

There are three "workshops" on February 21, March 20, and April 17. During these workshops, each student will have 40 minutes to present his/her research project to the class for feedback. As with the regular paper presentations, this presentation should include a description of the substantive framing of the project/the important question being answered by the research, the assumptions underlying the paper's formal model, proofs of important propositions, and derivations of key comparative statics (where relevant). The students should plan to spend 20 minutes presenting their research, and should bring up challenges, questions, or problems that have materialized in the research up to that time. This presentation should make use of active presentation techniques, including presentation software, computer simulation, whiteboard proofs/annotation, etc. The remaining 20 minutes will be devoted to a workshop discussion of the research, including evaluation of the technical merits of the model, refocusing of its substantive framing, ideas for expansion of its theoretical scope, suggestions for empirical tests, and other potential areas of improvement.

Students will be graded on presentations by both their peers and the instructor, including a quantitative assessment of their performance (that will form the basis of the grade) and open-ended suggestions for improvement. Student feedback will be anonymous (that is, students will not know which of their peers assigned them which grades/feedback).

The final draft of the final paper is due on **May 4, 2012**, at 11:59 PM by e-mailed electronic submission to jesarey@emory.edu.

All papers and presentation slides must be typed in L^AT_EX. I suggest using L^AT_EX (http://www.lyx.org/) in combination with MiK_TE_X on Windows (http://miktex.org/), Mac_TE_X on Macintosh (http://www.tug.org/mactex/) or T_EXLive on Linux (http://www.tug.org/texlive/).

You must use the APSA citation style described in the APSA Manual of Style.

Course Policies

Attendance

Attendance is mandatory in this class, and as graduate students I expect that attendance will not be a problem for you. Failure to attend will result in your receiving a zero for that day's participation credit.

Late Work

Assignments are due at the date and time I specify for the assignment. Written late work will be marked off at 5 percentage points for the first 24 hours late, and an additional 10 percentage points for every subsequent 24 hours late. In-class presentations may not be made up at a later date and no partial credit may be given.

Late work penalties may be waived and presentations may be rescheduled in the event of (a) a death in the immediate family (parent, spouse, sibling, or child) within 2 weeks before the due date, (b) an unforeseeable medical emergency affecting yourself, your spouse, or your child, or (c) participation in an official academic activity (viz., you are presenting at a conference or giving a job talk). Penalty waivers are at the discretion of the instructor. I may require supporting documentation.

Academic Misconduct

Cases of plagiarism on the research paper and other forms of academic misconduct will be handled according to the Emory University Honor Code, available on-line at http://www.college.emory.edu/current/standards/honor_code.html.

Please pay special attention to the definition of plagiarism on the Emory Honor Code web site at the link above. You may also find the Emory Writing Center's site on "Avoiding Plagiarism" helpful; this site is found at <http://www.writingcenter.emory.edu/plagiarism.html>.

If you ever have any questions about whether or how material should be cited, PLEASE contact me with your question and I can assist you. I cannot guarantee a timely response unless you contact me *at least 24 hours in advance of the time the assignment is due*.

Course Outline and Assigned Readings

January 24 - The Nature and Purpose of Game Theoretic Models

1. Milton Friedman. 1966. "The Methodology of Positive Economics." In *Essays in Positive Economics*, University of Chicago Press.
2. Amartya Sen. 1985. "Rationality and Uncertainty." *Theory and Decision* 18: 109-127.
3. Rebecca Morton. 1999. *Methods and Models*. 1999. Cambridge University Press. Chapter 2, pp. 33-74.
4. Kevin A. Clarke and David M. Primo. 2007. "Modernizing Political Science: A Model-Based Approach." *Perspectives on Politics* 5: 741-753.
5. John Aldrich, James Alt, and Arthur Lupia. 2008. "The EITM Approach: Origins and Interpretations." In the *Oxford Handbook of Political Methodology*, pp. 828-843.
6. James Johnson. 2010. "What Rationality Assumption? Or, How 'Positive Political Theory' Rests on a Mistake." *Political Studies* 58: 282-299.

January 31 - Policy-making in a Separated Powers System I

1. George Tsebelis. 1995. "Decision Making in Political Systems: Veto Players in Presidentialism, Parliamentarism, Multicameralism, and Multipartyism." *British Journal of Political Science* 25: 289-325.
2. Keith Krehbiel. 1996. "Institutional and Partisan Sources of Gridlock: A Theory of Divided and Unified Government." *Journal of Theoretical Politics* 8: 7-40.
3. Thomas H. Hammond and Jack H. Knott. 1996. "Who Controls the Bureaucracy?: Presidential Power, Congressional Dominance, Legal Constraints, and Bureaucratic Autonomy in a Model of Multi-Institutional Policy-Making." *Journal of Law, Economics, and Organization* 12: 119-166.

February 7 - Policy-making in a Separated Powers System II

1. Charles R. Shipan. 2004. "Regulatory Regimes, Agency Actions, and the Conditional Nature of Congressional Influence." *American Political Science Review* 98: 467-480.
2. Craig Volden, Michael M. Ting, and Daniel P. Carpenter. 2008. "A Formal Model of Learning and Policy Diffusion." *American Political Science Review* 102: 319-332
3. Jason A. Macdonald. 2010. "Limitation Riders and Congressional Influence over Bureaucratic Policy Decisions." *American Political Science Review* 104: 766-782.

February 14 - New Models in International Relations

1. Ethan Bueno de Mesquita. 2005. "Conciliation, Counterterrorism, and Patterns of Terrorist Violence." *International Organization* 59: 145-176.
2. Robert F. Trager. 2010. "Diplomatic Calculus in Anarchy: How Communication Matters." *American Political Science Review* 104: 347-368.
3. Bard Harstad and Jakob Svensson. 2011. "Bribes, Lobbying, and Development." *American Political Science Review* 105: 46-63.

February 21 - Paper Workshop #1

February 28 - Learning in Games/Behavioral Game Theory

1. John H. Nachbar. 1997. "Prediction, Optimization, and Learning in Repeated Games." *Econometrica* 65: 275-309.
2. Fudenberg, Drew, and David K. Levine. 1998. "Fictitious Play." Chapter 2 in *The Theory of Learning in Games*, MIT Press: 29-50.
3. Colin Camerer and Teck Hua Ho. 1999. "Experience-weighted Attraction Learning in Normal Form Games." *Econometrica* 67: 827-874.
4. Steven Callander. 2011. "Searching for Good Policies." *American Political Science Review* 105: 643-662.

March 6 - Classics of Social Choice Theory

1. Charles R. Plott. 1967. "A Notion of Equilibrium and its Possibility Under Majority Rule." *American Economic Review* 57: 787-806.
2. John Geanakoplos. 2005. "Three Brief Proofs of Arrow's Impossibility Theorem." *Economic Theory* 26: 211-215.

3. Amartya Sen. 1993. "Internal Consistency of Choice." *Econometrica* 61: 495-521.
4. Richard D. McKelvey. 1976. "Intransitivities in Multidimensional Voting Models and Some Implications for Agenda Control." *Journal of Economic Theory* 12: 472-482.
5. Jean-Pierre Benoit. 2000. "The Gibbard-Satterthwaite theorem: a simple proof." *Economics Letters* 69: 319-322.

March 13 - No Class (Spring Break)

March 20 - Paper Workshop #2

March 27 - Applications of Evolutionary Game Theory

1. Werner Guth and Hartmut Kliemt. 1998. "The Indirect Evolutionary Approach: Bridging the Gap Between Rationality and Adaptation." *Rationality and Society* 10: 377-399.
2. John Orbell et al. 2004. "Machiavellian' Intelligence as a Basis for the Evolution of Cooperative Dispositions." *American Political Science Review* 98: 1-15.
3. TK Ahn and Justin Esarey. 2008. "A Dynamic Model of Generalized Social Trust." *Journal of Theoretical Politics* 20: 151-180.
4. McDermott, Rose, James Fowler, and Oleg Smirnov. 2008. "On the Evolutionary Origin of Prospect Theory Preferences." *Journal of Politics* 70: 335-350.

April 3 - Modern Applications of Principal-Agent Theory

1. Jeffrey R. Lax. 2003. "Certiorari and Compliance in the Judicial Hierarchy: Discretion, Reputation, and the Rule of Four." *Journal of Theoretical Politics* 15(1): 61-86.
2. Sean Gailmard and John Patty. 2007. "Slackers and Zealots: Civil Service, Policy Discretion, and Bureaucratic Expertise." *American Journal of Political Science* 51: 873-889.
3. Michael M. Ting. 2008. "Whistleblowing." *American Political Science Review* 102: 249-267.

April 10 - Modern Collective Choice/Public Goods Models

1. Moses Shayo. 2009. "A Model of Social Identity with an Application to Political Economy: Nation, Class, and Redistribution." *American Political Science Review* 103: 147-174.

2. Timothy Feddersen, Sean Gailmard, and Alvaro Sandroni. 2009. "Moral Bias in Large Elections: Theory and Experimental Evidence." *American Political Science Review* 103: 175-192.
3. John W. Patty. 2008. "Arguments-Based Collective Choice." *Journal of Theoretical Politics* 20: 379-414.

April 17 - Paper Workshop #3

April 24 - Students' Choice I

1. _____
2. _____

May 1 - Students' Choice II

1. _____
2. _____

Students with Disabilities

Emory University complies with the regulations of the Americans with Disabilities Act of 1990 and offers accommodations to students with disabilities. All students with special requests or need for accommodations should make this request to Prof. Esarey as soon as possible.¹ Documentation from the Emory Office of Disability Services is required; see url-<http://www.ods.emory.edu/students.htm> for more details.

Syllabus Change Policy

The policies of this syllabus may be changed by Prof. Esarey with advance notice.

¹This statement is quoted from the Office of Faculty Resources for Disabilities website at <http://www.portals.emory.edu/sylideas.html>.