PS204-2 (PS204C): Game Theory in Politics (Level III, Advanced)
Course Syllabus
Winter 2011

Professor Leslie Johns
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Bunche Hall, office #3274

LOCATION and TIME:

BUNCHE 4357
TR 8:00 AM-9:15 AM

COURSE DESCRIPTION:

This is an advanced-level game theory course. Students are assumed to have already completed the first two courses in the political science department's Ph.D. game theory sequence. Students who have not completed this training should consult with the professor before enrolling.

ASSIGNMENTS and GRADING

Your grade in this course is based on the following components.

Weekly problem sets: 50%

> Problem sets will be distributed each week and due the following Tuesday at the beginning of class. Late assignments will not be accepted. There will be no make-up assignments.

Research memo: 25%

> Students will write a 5-10 page proposal on the application of game theory to a research topic of their choice. Details of the assignment will be distributed in class.

Final exam: 25%

TEXTS

<u>Required text:</u>

Gibbons, Robert. (1992) *Game Theory for Applied Economists*. Princeton, NJ: Princeton University Press.

<u>Supplemental texts:</u>

Readings from the following texts will be assigned and available on the course website. However, you might wish to purchase these books if you are particularly interested in the relevant topics.

McCarty, Nolan and Adam Meirowitz. (2007) *Political Game Theory: An Introduction.* Cambridge: Cambridge University Press.

Muthoo, Abhinay. (2002) *Bargaining Theory with Applications*. Cambridge: Cambridge University Press.

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

Other textbooks that you might find useful for supplemental and background readings are:

Simon, Carl P. and Lawrence Blume. (1994) *Mathematics for Economists.* New York: W.W. Norton & Company

Osborne, Martin J. and Ariel Rubinstein. (1994) *A Course in Game Theory*. Cambridge, MA: MIT Press.

Fudenberg, Drew and Jean Tirole. (2000) *Game Theory.* Cambridge, MA: MIT Press.

Myerson, Roger B. (2004) *Game Theory: Analysis of Conflict.* Cambridge, MA: Harvard University Press.

Mas-Colell, Andreu, Michael D. Whinston, and Jerry R. Green. (1995) *Microeconomic Theory*. New York: Oxford University Press.

<u>Articles:</u>

These will be made available on the course website at:
https://classes.sscnet.ucla.edu/course/view/11W-POLSCI204-2

TOPICS AND READINGS

Part I: Fundamentals

Topic 1:   Review of static games of incomplete information

- Formal definition of game structure
- Bayesian Nash equilibrium concept
- Monotonicity and symmetry
- Applications: public goods provision and the swing voter's curse

Read:

Gibbons, chapter 3, pages 143-163

Topic 2:   Review of dynamic games of incomplete information

- Formal definition of game structure
- Weak Perfect Bayesian equilibrium concept

Read:

Gibbons, chapter 4.0-4.1, pages 173-183

Part II: Common Political Science Applications

Topic 3:   Costly signaling games

- Formal definition of game structure
- Types of equilibrium: separating, pooling, and hybrid equilibria
- Application: pretrial negotiations and political expenditures

Read:

Gibbons, chapter 4.2, pages 183-210

Gilligan, Michael, Leslie Johns, and B. Peter Rosendorff. (2010) "Strengthening International Courts and the Early Settlement of Disputes." *Journal of Conflict Resolution*. 54 (5): 5-38.

Gordon, Sanford C. and Catherine Hafer. (2005) "Flexing Muscle: Corporate Political Expenditures as Signals to the Bureaucracy." *American Political Science Review.* 99(2): 245-261.

Topic 4:   Cheap talk games

- Formal definition of game structure
- Solution techniques
- Application: communication in legislatures and bureaucracies

Read:

Gibbons, chapter 4.3.A, pages 210-218

Johns, Leslie. (2007) "A Servant of Two Masters: Communication and the Selection of International Bureaucrats." *International Organization.* 61: 245-275.

Gilligan, Thomas W. and Keith Krehbiel. (1987) "Collective Decision-making and Standing Committees: An Informational Rationale for Restrictive Amendment Procedures." *Journal of Law, Economics, and Organization.* 3(2): 287-335

Topic 5:   Bargaining and infinite-horizon games

- Solution techniques
- Rubinstein bargaining game
- Application: legislative bargaining

Read:

Muthoo, chapters 2 and 3

Baron, David P. and John A. Ferejohn (1989) "Bargaining in Legislatures." *American Political Science Review.* 83(4): 1181-1206.

Topic 6:   Timing games

- Formal definition of game structure
- Solution techniques for stationary games with complete and incomplete information
- Application: wars of attrition in international negotiations

Read:

Osborne, chapter 3.4, pages 77-80

Fearon, James (1998) "Bargaining, Enforcement, and International Cooperation." *International Organization*. 58: 213-237.

Part III: Advanced Concepts and Tools

Topic 7:   Stochastic games and Markov Perfect Equilibria

- Formal definition of game structure and equilibrium concept
- Solution techniques
- Application: political transitions

Read:

Acemoglu, Daron and James A. Robinson (2001) "A Theory of Political Transitions." *American Economic Review*. 91(4): 938-963.

Topic 8:   Mechanism design

- Relationship to social choice theory
- Definitions of mechanisms
- Revelation Principle
- Application: mediation and crisis bargaining

Read:

Gibbons, chapter 3.3, pages 164-168

McCarty and Meirowitz, chapter 11.1, 11.2, and 11.6, pages 320-326 and 339-342

Banks, Jeffrey S. (1990) "Equilibrium Behavior in Crisis Bargaining Games." *American Journal of Political Science*. 34(3): 599-614.

Topic 9:   Global games

- Higher-order beliefs and equilibrium selection
- Solution techniques

- Application: currency crises and revolutions

Read:

Morris, Stephen and Hyun Song Shin. (1998) "Unique Equilibrium in a Model of Self-Fulfilling Currency Attacks." *American Economic Review*. 88: 587-597.