Public Policy 419
Formal Models in the Politics of Policymaking II
Winter 2010

Professor Ethan Bueno de Mesquita

Office 1155 E. 60th, Rm. 108

Office Hours Tu/Th, 10:30–11:30 (or by appointment)

Office Phone 773.834.9874

Email bdm@uchicago.edu

TA Ryan Fang

Office TBA

Office Hours TBA

Email ryfang@uchicago.edu

Course website The course has a website at chalk.uchicago.edu

Course Description This course follows up on Formal Models in the Politics of Policymaking 1 (PPHA 41100). It will continue to introduce foundational concepts in noncooperative game theory and the key mathematical tools needed for to do applied theory. We will also look at a variety of applications from both political science and economics.

Prerequisites Students should have a working knowledge of some foundational mathematics including sets and relations, basic calculus, and basic probability theory. Students should also be familiar with game theory and decision theory at the level presented in Formal Models in the Politics of Policymaking 1.

Course Requirements The course has three requirements:

- **Problem Sets** Problem sets will be distributed and due each Thursday. Because working problems is critical to learning game theory, these problem sets will constitute 40% of your grade. You are encouraged to work on problem sets in groups, but you must write up your own answers. Late problem sets will not be accepted. All problem sets must be written clearly or typed. Moreover, the expectation is that the argument underlying your answers will be laid out in an easy to follow string of logic. That is, the TA and professor should not have to work hard to figure out what it is you are arguing. This will almost certainly mean that you will have to rewrite your solution (once you have arrived at it) before turning in the problem set.

- **Midterm** There will be an in class midterm exam on February 5. It will count for 25% of your grade.
- **Final** There will be a comprehensive in-class final at the end of the quarter that will make up the remaining 35% of your grade.

Course Materials The required textbook for this course is Martin J. Osborne. 2004. *An Introduction to Game Theory.* Oxford: Oxford University Press.

Course Schedule

Below, I provide an outline of the course. I provide a list of topics and the relevant readings. We will see how long each section takes as we go.

Repeated Games

Repeated Games Defined and Nash Equilibrium

Osborne, 14.1–14.7

Subgame Perfection and the one-shot deviation principle

Osborne, 14.9–14.10

Folk Theorems

Osborne, 14.8, 14.11, 15.1–15.2

Applications: Legislative Bargaining

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

Applications: Democratization

Acemoglu, Daron, and James Robinson. 2000. "Why did the West extend the franchise?" *Quarterly Journal of Economics* 115:1167-1199

Bayesian Games

Bayesian Equilibrium

Osborne, 9.1–9.3

Applications: Duopoly, Providing a Public Good, Condorcet Jury Theorem

Osborne, 9.4–9.8

Global Games

Morris, Stephen, and Hyun Song Shin. 2003. "Global Games: Theory and Applications." In *Advances in Economics and Econometrics (Proceedings of the Eight World Congress of the Econometric Society.* Dewatripont, Hansen, and Tunovsky (eds.). Cambridge: Cambridge University Press. http://www.princeton.edu/∼smorris/pdfs/paper_36_Global_Games.pdf

Single Crossing Conditions

Comparative Statics

Ashworth, Scott and Ethan Bueno de Mesquita. 2006. "Monotone Comparative Statics for Models of Politics." *American Journal of Political Science* 50(1):214–231.

The Median Voter Theorem

Gans, Joshua S. and Michael Smart. 1996. "Majority Voting with Single-Crossing Preferences." *Journal of Public Economics* 59(2):21937.

General Extensive Form Games

Weak Perfect Bayesian Equilibrium

Osborne, 10.1–10.4

Signalling

Osborne, 10.5–10.7

Cheap talk

Osborne, 10.8–10.9

Agency Theory

Risk and Risk Aversion

MWG 6.C–6.D

Hidden Action

MWG, 14.A–14.B

Hidden Information

MWG, 14.C

Agency Models of Elections

TBA