

**Columbia University – Spring 2012**  
**Political Science W4209**  
PROF. MASSIMO MORELLI  
*GAME THEORY AND POLITICAL THEORY*

**Introduction**

This course is a comprehensive, high-level introduction to game theory. The focus of the course will be on basic concepts, but some time will be spent on applications as well. It is intended for doctoral students in political science, but it is also appropriate for other students with an interest in the formal study of political institutions and a background in microeconomics. I will assume that students are comfortable with mathematical techniques.

**Requirements**

You are of course required to attend lecture and follow the readings to the best of your ability. Class sessions will be conducted in lecture format. Weekly discussion sessions will be used for reviewing material and problem set solutions.

Lectures will take place on Monday and Wednesday from 9:10am to 10:25am in ...

Grades will depend on

1. Regular (approximately bi-weekly) problem sets. (40%);
2. In-class midterm on 3/7. (20%);
3. Comprehensive final exam on 5/7. (40%).

**Reading Materials**

Primary required text:

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

Suggested second text:

McCarty, Nolan, and Adam Meirowitz. 2004. *Political Game Theory*. Princeton University.

Copies of the required text have been ordered through Book Culture.

In addition, I recommend the following texts for reference and supplementary reading:

Austen-Smith, David, and Jeffrey Banks. 1999. *Positive Political Theory I: Collective Preference*. Ann Arbor: University of Michigan Press.

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

**Contact information:**

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**Teaching assistants:**

1. Camille Strauss-Kahn – cs2899
2. Andrew Guess – amg2232

**Schedule**

- Jan 18, 23 Introduction, Rational Choice  
McCarty and Meirowitz, Ch. 2, 3 (skim)  
Osborne, Ch. 1
- Jan 25, 30 Social Choice  
McCarty and Meirowitz, Ch. 4.1-4.3  
Recommended: Krehbiel, Keith. 1988. "Spatial Models of Legislative Choice." Legislative Studies Quarterly 13(3): 259-319.
- Feb 1,6 Normal Form Games: Introduction  
Osborne, Ch. 2  
McCarty and Meirowitz, Ch. 5.1-5.3
- Feb 8, 13, 15 Normal Form Games: Examples  
Osborne, Ch. 3.1, 3.3-3.5  
McCarty and Meirowitz, Ch. 5.6-5.7 (skim)
- Feb 20, 22 Normal Form Games: Mixed Strategies  
Osborne, Ch. 4.
- Feb 27, 29 Nash Theorem  
McCarty and Meirowitz, Ch. 5.9
- Mar 5 Nash Equilibrium Examples
- Mar 7 Midterm
- Mar 12, 14 Spring Break - No Class

- Mar 19, 21 Extensive Form Games: Introduction  
Osborne, Ch. 5  
McCarty and Meirowitz, Ch. 7.1-7.3
- Mar 26, 28, Apr 2 Extensive Form Games: Examples  
Osborne, Ch. 6, 7.3, 7.4  
McCarty and Meirowitz, Ch. 7.4
- Apr 4, 9, 11 Imperfect Information  
Osborne, Ch. 10  
McCarty and Meirowitz, Ch. 8 (skim)
- Apr 16, 18 Repeated Games  
Osborne, Ch. 14, 15  
McCarty and Meirowitz, Ch. 9 (skim)
- Apr 23, 25 Bargaining  
Osborne, Ch. 16.1-16.2  
Baron, David, and John Ferejohn. 1989. "Bargaining in Legislatures." *American Political Science Review* 83: 1181-1206.
- May 7 Final Exam (9am - noon) (Provisional date and time - check registrar's web page for updates.)