Department of Economics
The Ohio State University
Economics 817: Game Theory

Syllabus and Reading List

James Peck and David Schmeidler
Autumn 2008
www.econ.ohio-state.edu/jpeck/Econ817.htm

**Course Objectives:** This course aims to thoroughly treat the field of Game Theory, and provide you with useful tools for understanding current research and performing your own research in the field. The course follows the organization of the text by Osborne and Rubinstein, supplemented by a few “classic” articles.

**Course Requirements:** Students will present a game theory article to the class, and write a short 3-5 page referee’s report (on another article that was not presented in class). The presentation and referee’s report each count for 45% of the grade. In addition, there will be 3 or 4 homework assignments, which count for the remaining 10%. Study groups are allowed on the homework assignments, in which you can discuss the questions and talk about how to solve them. However, you need to write up the answers individually and without help, and indicate on your writeup the names of the people in your study group. Homework grades are based on full credit for a good faith effort, zero credit otherwise.

**Textbook:** Osborne, M. J. and A. Rubinstein, “A Course in Game Theory,” The MIT Press, 1994. We will use the abbreviation, O-R.

Other sources (not required):


I. Cooperative Game Theory


II. Games in Strategic (Normal) Form

1. Nash Equilibrium, Strictly Competitive Games, Bayesian Games.
O-R, chapter 2.
O-R, chapter 3.


3. Rationalizability and Iterative Elimination of Strictly Dominated Actions.


O-R, chapter 4.

O-R, chapter 5.


III. Extensive Form Games with Perfect Information.

1. Extensive form games with perfect information, subgame perfect equilibrium, the one-deviation property, Kuhn’s theorem and backwards induction, exogenous uncertainty, simultaneous moves.

2. Repeated Games and Folk Theorems.
O-R, chapter 8.


IV. Extensive Form Games with Imperfect Information.

1. Extensive form games, mixed and behavioral strategies.
O-R, chapter 11.

2. Sequential Equilibrium.
O-R, chapter 12.

3. Perfect Bayesian Equilibrium for games with observable actions, signaling games.
O-R, chapter 12.

O-R, chapter 12.
V. Articles in Game Theory.

Strategic Form and Bayesian Games:

1. Global Games


2. Common Knowledge


3. Mechanism Design


4. Oligopoly


5. Market Games


**Extensive Form Games:**

6. Timing Games.


7. Bargaining with Imperfect Information.


8. Sender-Receiver Games.


9. Repeated and Multi-stage Games with Imperfect Information


Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; [http://www.ods.ohio-state.edu/](http://www.ods.ohio-state.edu/)