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. 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.


Other sources (not required):


I. Games in Strategic (Normal) Form

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

   O-R, chapter 3.

Aumann, R. J., "Subjectivity and Correlation in Randomized Strategies," Journal of
Mathematical Economics, 1974.

3. Rationalizability and Iterative Elimination of Strictly Dominated Actions.


O-R, chapter 4.


O-R, chapter 5.


II. 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.


III. 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.

4. “Almost” observable actions.

O-R, chapter 12.

IV. Cooperative Game Theory

V. Topics in Game Theory.

1. Global Games


2. Timing Games.


4. Sender-Receiver Games.


5. Repeated and Multi-stage Games with Imperfect Information


6. Market Games


