

ECON 212, Game Theory TR 5:30 - 9:20 PM, Room: TBA

University of Pennsylvania

Summer 2017, Session 2 (06/29/2017 - 08/04/2017)

Description: Game theory studies situations of strategic interaction, i.e., when one agent's behavior affects the optimal behavior of other agents. In this course we study the fundamentals of the theory and a number of applications in economics, political science and law.

Instructor: Joao Granja, McNeil Building Room 421, joaog@sas.upenn.edu

Office Hours: Wednesday, 09:00am-10:30am.

Textbook: *Strategy: An Introduction to Game Theory*, Third Edition, by Joel Watson.

Prerequisites: ECON 101; MATH 104 and MATH 114 or MATH 115.

Course Materials. Lecture slides and problem sets will be posted on Canvas as we go along.

Homework. Problem sets will be posted every Thursday and they are always due on the following Thursday. A problem set posted on a given Thursday refers to material taught on that day and on the following Tuesday. Problem sets will be graded on a 1-5 scale. Late problem sets won't be graded.

Working on the problems is an integral part of the course. It's impossible to emphasize this enough! In this course you will encounter many new concepts and it's only possible to fully understand them by working through problems that require their application.

Working on small groups in the problem sets is *strongly encouraged*. However, **every student is required to turn in their own solutions**. Typeset solutions are not required but greatly appreciated.

Exams. There will be two midterms and one final exam. All exams are cumulative but with emphasis on the material taught most recently (i.e., those not covered in previous exams). The dates for the midterms are **July 11** and **July 25**. The date for the final exam is **August 3** (the last day of classes). The exams always start at 5:30 pm. After each of the midterms we'll take a break and resume our normal activities.

As I won't be in town after August 9, I urge you to take a look at your graded final exam as soon as possible. I'll work to make your final grades available very quickly. Regrades will not be considered if requested after August 8 at noon.

Grading Policy. 10% for homework, 25% for each midterm and 40% for the final exam. If you are unable to take one of the midterms for an excused reason, the other one will count towards 32% of your final grade and the final exam 58%.

Department Policies. We'll follow all of the department policies, including the one on regrade requests. Please read <http://economics.sas.upenn.edu/undergraduate-program/course-information/guidelines/policies>.

Course Outline: A *tentative* outline is given below. The chapters refer to the textbook mentioned above.

Date	Chapters and Topics
June 29	Chapter 1 (Introduction), Chapter 2 (The Extensive Form), Chapter 3 (Strategies and the Normal Form), Chapter 4 (Beliefs, Mixed Strategies and Expected Payoffs), Chapter 5 (General Assumptions and Methodology)
Make-up class ^{*,†}	Chapter 6 (Dominance and Best Response), Chapter 7 (Rationalizability and Iterated Dominance), Chapter 8 (Applications).
July 6	Chapter 9 (Nash Equilibrium), Chapter 10 (Applications), Chapter 11 (Mixed Strategy Nash Equilibrium), Chapter 12 (Strictly Competitive Games and Security Strategies)
July 11	Midterm 1! Chapter 13 (Contract, Law and Enforcement in Static Settings)
July 13	Chapter 14 (Details of the Extensive Form), Chapter 15 (Sequential Rationality and Subgame Perfection), Chapter 16 (Topics in Industrial Organization)
July 18	Chapter 18 (Bargaining Problems), Chapter 19 (Analysis of Simple Bargaining Problems), Chapter 21 (Applications)
July 20	Chapter 22 (Repeated Games and Reputation), Chapter 23 (Applications)
July 25	Midterm 2! Chapter 24 (Random Events and Incomplete Information), Chapter 25 (Risk and Incentives in Contracting)
July 27	Chapter 26 (Bayesian Nash Equilibrium and Rationalizability), Chapter 27 (Lemons, Auctions and Information Aggregation)
August 1	Chapter 28 (Perfect Bayesian Equilibrium), Chapter 29 (Job Market Signaling and Reputation)
August 3	FINAL EXAM!