

Economics 109: Game Theory UCSD Fall 2011

Times and Places

Lectures:	TuTh 8-9:20a	Center Hall 105
Discussion Sections:	M 6-7:50p	Cognitive Science Building 002

Brief Course Description

This intermediate microeconomics course examines strategic situations, in which each agent's behavior generally affects the well-being of the other agents. Game theory is a technical framework for rigorously analyzing decision-making in such settings. Almost every type of interaction between living things is strategic. As social scientists, we focus on human interaction, and we shall assume that people behave in a rational, deliberate manner. In addition to exploring theory in the abstract, we will consider a variety of applications from economics, political science, and everyday life.

Required Textbook

Watson, Joel. *Strategy: An Introduction to Game Theory 2nd edition* (W.W. Norton)

Course Website

I will post announcements, grades, and practice exams on our course website at Ted. <http://ted.ucsd.edu>

Office Hours/Contact Information

Instructor: Yuan Emily Tang, Ph.D.	yetang@ucsd.edu	Th 9:30-11:30a	Econ Annex
TAs: Olexi Mnyshenko	omnyshenko@ucsd.edu		Sequoyah 232
Igor Vaynman	ivaynman@ucsd.edu	M 10-11:55a	Sequoyah 236

Evaluation

Your grade will be determined based on completion of problem sets assigned approximately weekly (10%), performance on one midterm exam (40%), and performance on the final exam (50%). The weighted total points earned in the course will be curved according to the standard Economics department curve.

Important Dates:

Midterm Exam:	Tuesday 10/25	in class
Final Exam:	Tuesday 12/6	8-11a

Policies

Exam dates are not negotiable. If you miss the midterm because of documented illness or sports, then the final exam will count for 90% of your grade. If you miss the midterm for any other reason, you will receive a score of zero on the midterm. There are no acceptable reasons for missing the final-- if you miss the final, you will receive a failing grade for the course.

Exams are closed-book and closed-notes, and you will not be allowed to use calculators. No one will be allowed to start an exam after the first person leaves it. Students have one week from the day in which the midterm exam is returned to the class to report errors in grading or request that problems be re-graded. A random subset of graded exams will be photocopied, and altering an exam after we have handed them back will be considered academic misconduct. Any student found guilty of academic misconduct will earn a failing grade for the course. In addition to this academic sanction, the Council of Deans of Student Affairs will impose a disciplinary penalty.

Course Content

We will follow the textbook closely. Practice problems will be assigned from the textbook.

Preliminary Course Outline (Subject to Change)

<i>Topic</i>	<i>Chapter in Textbook</i>
A. Representing Games	
Intro, extensive form representation, strategies	1-3
Normal form representation, beliefs, mixed strategies	4-5
B. Analysis of Static Settings	
Best response, rationalizability, applications	6-8
Nash equilibrium, applications	9-10
Mixed strategy equilibrium	11
C. Analysis of Dynamic Settings	
Extensive form, backward induction	14
Subgame perfect equilibrium, applications	15-16
Bargaining	18-19
Repeated games, applications	22-23
D. Information	
Random events and incomplete information	24
Bayesian equilibrium, applications	26-27
Perfect Bayesian equilibrium, applications	28-29