PSCI/ECON 288: GAME THEORY

Updated 1/15/2026

SPRING 2026
MW 15:25-16:40pm
MELIORA 203

Prof. Tasos Kalandrakis
Office: Harkness 336
Email: `kalandrakis@rochester.edu`
Office Hours: T 9:00-11:00am.
Recitation: M 4:50-6:05pm, Meliora 203.

Teaching Assistants

- Bingru Li (Email: `bli52@ur.rochester.edu`).
  Office hours: W 10:00-11:00am, Harkness 305.

- Xingyu Zhou (Email: `xzhou56@ur.Rochester.edu`).
  Office hours: M 10:00-11:00am, Harkness 109A.

In social interaction (political, economic, or other) individual welfare depends on the choices of multiple actors. Thus, individuals must anticipate other people's behavior in order to reach best decisions. Game theory is a systematic framework for understanding and analyzing such strategic interaction.

The goal of this course is to introduce the theory of games in a systematic way. We will cover basic solution concepts for simultaneous and sequential move games, with and without complete information. Applications will be drawn from models of conflict and war, electoral competition, voting and agenda manipulation, market competition, etc.

Mathematical Requirements: While aptitude in logical or mathematical reasoning is desirable, there are no formal mathematical requirements for this course beyond the ability to perform elementary mathematical operations.

Lecture format: Lectures will take place in person. Under exceptional circumstances I may offer lectures remotely via zoom. In all cases, PDF copies of lecture slides will be distributed ahead of time via blackboard.

Reading: The main textbook for the course is

- An Introduction to Game Theory, by Martin Osborne (Oxford).

Lectures will be based on – but not limited to – materials from this book. Other optional textbooks you may wish to consult for a different perspective, additional examples, and generally to deepen your understanding include,

- Strategy, by Joel Watson,

- Games, Strategies, and Decision Making, by Joseph Harrington, and

- Strategies and Games, by Prajit Dutta.

Finally,

- Thinking Strategically, by A. Dixit and B. Nalebuff,

is informal yet informative.

Homework Assignments: Game theory cannot be mastered without working through homework assignments. Problem sets will be assigned on a weekly or bi-weekly basis. Assignments will be posted on blackboard on 5:00pm of the indicated post date and are to be submitted using blackboard by 3:25pm of the indicated due date. Details in the following schedule:

- Assignment 1 – post January 26; due February 4.

- Assignment 2 – post February 4; due February 11.

- Assignment 3 – post February 11; due February 18.

- Assignment 4 – post February 25; due March 4.

- Assignment 5 – post March 4; due March 18.

- Assignment 6 – post March 18; due March 25.

- Assignment 7 – post March 25; due April 1.

- Assignment 8 – post April 1; due April 8.

- Assignment 9 – post April 8; due April 15.

- Assignment 10 – post April 15; due April 22.

Please check the course pages on blackboard regularly for up to date information on assignment due dates, etc. *No late homework will be accepted.* Instead, you can drop two assignments in calculating the homework component of your final grade.

Academic honesty: General University policies and guidelines regarding academic honesty apply with the following added clarifications. First, with regard to homework assignments, we expect and even encourage students discussing and jointly working on assignment problems, *yet* you are individually responsible and must prepare and write up submitted answers on your own. Second, **course materials including lecture notes, assignments, assignment answer keys, and exams are proprietary and are not intended for sharing outside the classroom, certainly not for dissemination in the public domain through electronic media. *You may not make such materials available to any third person or entity within or outside the University without my explicit written consent.***

Electronics Policy: The use of electronic devices during class (ipads, laptops, smart phones) both distracts fellow classmates and disrupts the lecture. Please turn off smart phones and other devices. Please use traditional note-taking methods (e.g., print a hard copy of lecture notes ahead of time and add side-notes to this printout).

Recitation: Recitations will be offered on Mondays prior to each assignment (all assignment due dates are Wednesdays by the beginning of class) and prior to the two midterm exams. They are optional but highly recommended. Recitations will take place in person in *Meliora 203* (M 4:50-6:05pm). There will be *no* recitation on:

- Monday, January 26.

Evaluation: Your grade will be based on homework assignments (10%), and three midterm exams. Your best two midterm scores will count for 40% of your grade each, and your worst midterm score will count for 10% of your grade. *There will be no final exam. There will be no provisions for extra credit.*

Exam Dates: All three midterms will take place in class during scheduled class times, on the following dates:

- **Midterm I:** Wednesday, February 25.

- **Midterm II:** Wednesday, April 1.

- **Midterm III:** Wednesday, April 29.

There will be no final exam.

Grade Assignment: Letter grades are assigned according to the following rough guidelines (the exact cutoffs will be determined at the end of the semester):

- > 90: will guarantee A.

- > 75: will guarantee at least B-.

- > 65: will guarantee at least C.

- > 50: will guarantee at least D-.

- < 50: Potentially failing.

Schedule: Below is an outline of the main topics of the course.

TOPIC 1 STRATEGIC FORM GAMES

Weeks 1-5. Overview. Dominated strategies. Iterated Elimination. Nash equilibrium in pure and mixed strategies.

TOPIC 2 EXTENSIVE FORM GAMES

Weeks 5-10. Strategies. Subgame perfect Nash equilibrium. Backwards Induction.

TOPIC 3 GAMES OF IMPERFECT INFORMATION

Weeks 10-11. Information sets. Extensive and strategic form. SPNE.

TOPIC 4 REPEATED GAMES

Weeks 12. Repeated games. Folk Theorems.

TOPIC 5 STATIC GAMES OF INCOMPLETE INFORMATION

Weeks 13. Bayesian games.

TOPIC 6 DYNAMIC GAMES OF INCOMPLETE INFORMATION

Weeks 14-15. Dynamic games of incomplete information. Sequential equilibrium. Signaling games.

This course follows the College credit hour policy for four-credit courses. This course meets twice weekly for three academic hours per week. The course also includes recitation for one academic hour per week.

The University of Rochester respects and welcomes students of all backgrounds and abilities. In the event you encounter any barrier(s) to full participation in this course due to the impact of disability, please contact the Office of Disability Resources. Visit http://www.rochester.edu/college/disability/ for more information.