Game Theory
ECON 212

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Summer 2021, Session I

Welcome to Game Theory! I'm excited to be teaching this class, and over the next month, I hope to impart an appreciation for the power of mathematical models of strategy to explain the many phenomena you observe—in your academic studies, in your everyday lives, as citizens, and more.

Prerequisites: ECON 101 (Intermediate Micro), MATH 104 (Calculus I), MATH 114/115 (Calculus II)

My Contact Information

Office Hours: TBD (2 hours per week) and by appointment. Zoom Link. I'll also hold review sessions the weeks before the midterm and final.
Piazza: Piazza Link
Email: irabbani@sas.upenn.edu

Textbook: *Strategy: An Introduction to Game Theory*, 3rd edition, by Joel Watson, 2013

Other Readings/Practice: Beyond the the textbook, the internet will provide many more explanations and practice problems—so don't be afraid to look for the ones that make the most sense to *you*!

Piazza: We'll be using an online forum called Piazza for almost all communication; only quizzes, exams, and their grades will be on Canvas. Piazza is build around learning from your classmates as well as from me, and you can ask questions on it anonymously, which is great—I'm a shy questioner myself. There'll also be up to five points of extra credit for participation on Piazza, including anonymous participation.

Problem Sets: Problem sets will be posted every Tuesday and are due on Canvas the following Tuesday. Problem sets will be graded on a 1-5 scale. Late problem sets will not be accepted. I encourage you to try to do each problem set on your own, and to work through the rest in groups. Every student is required to turn in their own solutions.

Midterms and Final: All exams will be cumulative but emphasize the more recent material. If you *must* miss an exam, the remaining exams will take on its weight proportionally. The makeup final usually takes place at the beginning of the Fall semester and is outside my control.[1] Exams will be remotely administered in a manner TBD.

Regrades: All departmental policies here apply to this course, including the section on regrading.

[1] Generally, the time and date are determined by the department, and eligibility is determined by the undergraduate chair. Note that registering for a course means that you certify that you will be present for the exam, unless one of a small number of explicitly stated exceptions arises. These do not include travel plans or job internships: See "Departmental Policies" below.

Grading (tentative):

Problem Sets	Midterm 1	Midterm 2	Final
10%	25%	25%	40%

+ up to 5 points for participation on Piazza

Schedule (tentative):

Important dates, per academic calendar:

June 1: Last day to drop with no financial obligation

June 9: Last day to drop with 50% financial obligation, or to change grade status

June 23: Last day to withdraw

Date	Topics and Chapters
May 25	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)
May 27	Chapter 6 (Dominance and Best Response), Chapter 7 (Rationalizability and Iterated Dominance), Chapter 8 (Applications)
June 1	Chapter 9 (Nash Equilibrium), Chapter 10 (Applications), Chapter 11 (Mixed Strategy Nash Equilibrium), Chapter 12 (Strictly Competitive Games and Security Strategies)
June 3	Chapter 13 (Contract, Law and Enforcement in Static Settings), Chapter 14 (Details of the Extensive Form), Chapter 15 (Sequential Rationality and Subgame Perfection)
June 8	**Midterm 1**, Chapter 16 (Topics in Industrial Organization)
June 10	Chapter 18 (Bargaining Problems), Chapter 19 (Analysis of Simple Bargaining Problems), Chapter 21 (Applications)
June 15	Chapter 22 (Repeated Games and Reputation), Chapter 23 (Applications)
June 17	**Midterm 2**, Chapter 24 (Random Events and Incomplete Information), Chapter 25 (Risk and Incentives in Contracting)
June 22	Chapter 26 (Bayesian Nash Equilibrium and Rationalizability), Chapter 27 (Lemons, Auctions and Information Aggregation)
June 24	Chapter 28 (Perfect Bayesian Equilibrium), Chapter 29 (Job Market Signaling and Reputation)
June 29	**Final**