

ECON 439, Game Theory

Kevin Hasker

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Class: MA-301 TU 13:30-15:20, FR 9:30-10:20
Website: <http://hasker.bilkent.edu.tr/classes/Econ439/Index.htm>

Last Updated: 25 January, 2024

1 Course Description

Despite the funny name, Game Theory is an important tool in most social and physical sciences—even particle physics. It really should be entitled "interaction theory" but the developers first looked at the simplest interactions—games. The hallmark of Game Theory is the two core assumptions:

1. Rationality—people do what they think is best for themselves.
2. Correct Expectations—people are not surprised by what others are doing. Someone's actions may be uncertain, but everyone knows the possibilities.

Of course both of these assumptions are sometimes violated within the theory. Bounded Rationality usually limits the first. Evolutionary game theory replaces the first assumption with a survivalist equivalent and throws out the second. So what is game theory? Well, I'm sitting here chuckling while trying to figure out the answer. Like many methodologies you know it when you see it, and if you look around you will see it a lot.

2 Assessment:

Every year students get an F in this class and are unable to graduate.

Assignment	Number	Weight	Total Weight
Exams	2	35%	70%
Quizzes	6	5%	30%

The exams are not cumulative, but the material is. Students who take exams/homeworks will have their average increased to 85 (if necessary) by adding points to every student's total. Grading will then be based on the standard scale: 90's A/80's B/70's C/60's D. The adjusted scores of many students will be over 100 on each assignment. Traditionally to get an A (instead of A-) one needs an adjusted average of over 100%. I determine all +/- breaks when submitting grades.

There will be three quizzes before each exam to help prepare you for the exams.

I do not give FX. I will give an FZ to anyone who does not have a total of 35 by the last day of classes. Please remember that it is common for students to get an F in this class and not graduate.

2.1 Textbooks and Other Readings:

Martin J. Osborne and Ariel Rubinstein. *A Course in Game Theory* available at:
<https://arielrubinstein.tau.ac.il/books/GT.pdf>

2.2 Course Schedule

Week Beginning	Events	Topic	Chapters
29.01.2024		Intro, Rationality, and Equilibrium	1,4
5.02.2024		Rationality and Equilibrium	1,4
12.02.2024	Quiz	Normal or Strategic Form Games	2
19.02.2024		Mixed Strategy Equilibria	3
26.02.2024	Quiz	Mixed Strategy Equilibria	3
4.03.2024	No class FR	Bayesian Games	2
11.03.2024	Quiz	Bayesian Games	2
18.03.2024	No Classes	Midterm	
25.03.2024		Simple Extensive Form Games	6,7
1.04.2024	Quiz	Repeated Games	
8.04.2024		No classes	
15.04.2024	Quiz	Repeated Games	8
22.04.2024	No class TU	Repeated Games	8
29.04.2024		General Extensive Form Games	11,12
6.05.2024	Quiz	General Extensive Form Games	11,12
13.05.2024		Economic Applications	11,12
Quizzes will be on TU, Exams dates and times TBA			

3 The Fairness Clause:

I make and follow rules and do not make exceptions.

1. **Syllabus as Contract:** This syllabus is my contract with the students. Any changes will be announced in class and by e-mail.
2. **Talking in class:** I can give surprise quizzes, and in extreme cases cancel class.
3. **Cheating:** Points are only given for work shown and there are multiple versions of each test. I will penalize students (a little) for behavior that could lead to cheating, and may assign seating.
4. **Make-Ups:** Make up exams and quizzes will be harder than the original and the average will not be adjusted. I may make an exception if the student contacts me before the time of the quiz or exam.
5. **Grade Discussions:** All grade related discussions must be in writing.