

Spring 2020

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Office hours: T, Th 9:30 a.m.-11:00 a.m., or by appointment

ECON 395K 1

Game Theory

Unique identifiers 34570, 34575, 34580

Lectures: T, Th 11:00 a.m. – 12:30 p.m., BRB 1.120

- This is a master level course, which covers the central topics in game theory with some illustrations of their application to problems in economics.
- Please leave your laptops and other electronic devices at the door of my classroom (follow the [link](#) to see why).
- Class attendance and taking notes in class is **mandatory**. Notes you take in class will be checked on the regular basis. You will have to submit your notes each Thursday after the class unless indicated otherwise. You will get your notes back during review sessions. Only **hand-written** notes will be accepted!
- Review sessions will be held on Fridays 11:00 a.m.-12:00 p.m. in BRB 1.120..
- There will be problem sets, two midterms and the final. The midterms will be given on February 20 and April 2 in class. The final is scheduled for May 8, 10:00 a.m. – 12:00 p.m., BRB 1.120. Your grade will be determined as follows: class notes 5%, 10% homework problem sets, 20% each of the midterms, and 45% final.
- The problem sets are important, indispensable part of the course; you should spend considerable time and effort on them. I strongly encourage you to work on the problem sets in study groups. However, before meeting with your group you should have attempted each question - study groups work best when they facilitate learning from each other, not when they are used simply to permit division of labor (i.e., you won't learn very much by simply copying other students' answers). Solutions to problem sets will be posted on Canvas.
- Your TA is Mr. Joseph Stemmler, joseph.stemmler@utexas.edu His office hours are Th 5:00-6:00 p.m. in BRB 2.116
- The text for the course is Rasmusen E., **Games and Information**, Blackwell Publishing, 4th Edition, 2007. You may also find it useful to have a look at **Game Theory for Applied Economists** by Gibbons R., Princeton University Press, 1992. This text presents a slightly different exposition of several topics covered in the course, which some of you may find easier to understand. For those of you who seek a more advanced exposition, I would recommend **Game Theory** by Maschler M., Solan E., and Zamir S., Cambridge University Press, 2013.

- You can find solutions to the odd-numbered problems in the text book at <http://rasmusen.org/GI/funstuff.htm>. However, I strongly advise you to work out these problems (as an additional exercise) on your own, before looking at the solutions.

General course outline:

1. Game Structure and Equilibrium: definitions, dominated and dominant strategies, iterated dominance, Nash equilibrium, focal points. (Chapter 1).
2. Information: strategic and extensive forms. Sequential decisions, information sets, imperfect information, incomplete information, Bayesian Nash equilibrium. (Chapter 2)
3. Mixed and Continuous Strategies: mixed strategies, games of timing, randomizing, continuous strategies, strategic substitutes and complements, equilibrium existence. (Chapter 3)
4. Pricing. (Chapter 14)
5. Auctions. (Chapter 13)
6. Dynamic Games: subgame perfection, credibility, renegotiation. (Chapter 4)
7. Reputation and Repeated Games: finitely repeated games, indefinitely repeated games, reputation. (Chapter 5)
8. Bargaining: splitting a pie, the Nash Bargaining Solution, sequential bargaining, the Rubinstein Solution, outside options. (Chapter 12)

Other issues:

- Attendance in lectures and review sessions is mandatory. If you will be absent for a religious observance or other university-approved reason, please notify me two weeks in advance.
- Homework assignments are not accepted under any circumstances after solutions have been posted.
- I have a “zero tolerance” policy for academic dishonesty (i.e. plagiarism and cheating). Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, please visit <http://deanofstudents.utexas.edu/studentconduct.php>.
- The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. To determine if you qualify, please contact the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259, <http://www.utexas.edu/diversity/ddce/ssd/>. If they certify your needs, I will work with you to make appropriate arrangements.
- Safety regulations
 - Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
 - Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
 - Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

- In the event of an evacuation, follow the instruction of faculty or class instructors.
- Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency