



Game Theory & Applications

ECO 6409

Instructor Info



Dr. Fatma B. Gunay



Office Hrs: Mon & Wed 5 - 6pm
(on Zoom)



MAT 327



fgunay@ufl.edu

Course Info



Jan 11 - February 24



Monday, Wednesday



9:35am - 11:30am



Youtube and/or Synchronous

TA Info



Dilan Alpergin



Office Hrs: Thursday 11:30am -
1:30pm



Zoom



dilanalpergin@ufl.edu

Overview

This course provides a detailed introduction to Game Theory and its applications. We will start with the basic concepts and insights of game-theoretic reasoning. The first 2 weeks of the course is devoted to the introduction of the standard ways of representing games and to the discussion of the meaning of a strategy in different types of games. Once we cover the basics of game theory, we will dive deep into the applications of game theory to different fields. Some of the applications we will analyze (as time permits) are the Cuban missile crisis, insurance provision, contract design, price discrimination, and competition in oligopolies.

Material

Required Texts

Avinash K. Dixit, Susan Skeath & David H. Reiley. *Games of Strategy*. 4th Edition. WWNorton.

Avinash K. Dixit & Barry J. Nalebuff *The Art of Strategy: A Game Theorist's Guide to Success in Business and Life*. WWNorton.

Any required journal articles will be provided on Canvas.

Recommended Text

(For those who are interested in a more technical treatment)

Joel Watson. *An Introduction to Game Theory*. 3rd Edition. WWNorton.

Light Reading

David McAdams. *Game-Changer*. WWNorton.

Lectures

ECO6409 Game Theory is an 100% online course. All lectures will be posted on youtube. I will share the links to the lectures on Canvas. The videos will be topic by topic. I am planning to keep the duration of each video less than 20 minutes. Hence, every class day you will have multiple lectures to watch. At the end of each main topic, we will have a synchronous class in which we go over the key concepts of the topic. The date of the synchronous classes will be announced on Canvas.

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who unmute during class and participate verbally are agreeing to have their voices recorded.

If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared.

As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Exam Policies

There will be 2 online exams. We will be using HonorLock. Honorlock no longer supports Windows 8, Windows 8.1, Mac OSX 10.11 and Mac OSX 10.12. Please test your system at honorlock. For more information about using honorlock, please check our course Canvas page.

The exams are on February 1st and February 24th during the official class time. The exams are not comprehensive and include multiple choice questions, short answer questions as well as problems. I will provide practice tests before the exams.

During exams, students may use a simple scientific calculator (not a calculator with graphing abilities), and a 1-sided 3x5 cheat sheet.

Make-up exams will only be allowed for students who have a substantiated excuse approved by the instructor *before the due date*. When academic or religious conflicts exist or emergencies arise, make-up exams may be provided.

Exams will be graded within a week and the results will be announced on Canvas.

Grading Scheme

50%	Exams, 25% each
20%	Homework Assignments
15%	Quizzes
15%	Group Homework

Grades will follow the following scale. Curving is at the discretion of the professor.

Points	Grade
92.50 and above	A
90-92.49	A-
87.5-89.99	B+
82.5-87.49	B
80-82.49	B-
77.5-79.99	C+
72.50-77.49	C
70.00-72.49	D
0-69.99	E

Quizzes

There will be weekly quizzes each week, which include the topic covered during the the week. The questions are designed in such a way that following the online lectures is enough to get a 100%. You just need to pay attention to the lecture. At the end of the semester, I will drop the lowest grade out of these 6 quizzes.

Quizzes are due on Monday 9am. Our TA, Dilan, will grade your quiz within a week of submission and give you a feedback on Canvas.

Assignments

There will be an homework assignment each week. I will post them on Wednesday afternoons. They are due on Monday at 9am. Assignments will be posted on Canvas. When you finish your work, you will upload a single PDF document. At the end of the semester, I will drop the lowest grade.

Group Homework

There will be a group homework due on February 15th. You will have approximately one week to work on it. You will work in groups of 4 or 5. Students must determine their group members before the announcement of the group homework questions. If you need help to find a group, let me know so that I can place you in a group.

Accommodations for Students with Disabilities

If you have a disability and need accommodations please be sure to contact the Disability Resource Center right away so they can help you get the accommodations you require. If you will need to use any accommodations in this class, please talk with me early so you can have the best possible experience this semester. For more specific information visit <https://disability.ufl.edu>

Academic Integrity

The University of Florida maintains high standards for academic integrity in order to provide the students the best quality education. An online copy of the academic honor policy can be found at Student Honor Code. Students are expected to be familiar with the Code and to recognize that their work in the course is to be their own original work that truthfully represents the time and effort applied.

ECO6409 is an 100% online course. You are not allowed to receive any outside help including the use of online tutoring websites. Keep in mind that all these websites (I am not stating the names here) are willing to share their user information with universities. The following is directly from one of these websites:

If you have concerns that students may be using our products inappropriately, is here to work with you and address your concerns. We will cooperate with any official investigation by an academic instruction.

I would like to remind you one more time that the Honor Pledge below applies to any course work you are assigned:

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

On all work submitted for credit by students at the university, the following pledge is either required or implied: On my honor, I have neither given nor received unauthorized aid in doing this assignment.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available online.

Class Schedule

DATE	TOPICS	READINGS	ASSESSMENTS
Week 1 (1/11-1/17)	Introduction	Ch 1 (DN)	HW1, Quiz1
	Prisoners' Dilemma	Reading 1	
	Game Fundamentals	Worksheet 1	
Week 2 (1/18-1/24)	Sequential Move Games	Ch 2 (DN)	HW2, Quiz2
		Reading 2	
		Worksheet 2	
Week 3 (1/25-1/31)	Simultaneous Move Games;	Ch 3 (DN)	HW3, Quiz3
	Dominant / Dominated Strategies	Ch 4 (DN)	
	Nash Equilibrium	Worksheet 3	
2/1	EXAM I		
Week 4 (2/1-2/7)	Multiplicity of Equilibria	Ch 5 (DN)	HW4, Quiz4
	Coordination Games	Ch 9 (DN)	
	Randomization and Mixed Strategies	Worksheet 4	
Week 5 (2/8-2/14)	Repeated Prisoners' Dilemma	Ch 13 (BR)	HW5, Quiz5
	Reputation	Worksheet 5	
Week 6 (2/15-2/21)	Applications	Ch 6 (DN)	HW6, Quiz6
		Ch 7 (DN)	Group HW
		Reading 3	
		Worksheet 6	
Week 7 (2/22-2/24)	Review		
2/24	EXAM 2		