



Game Theory & Applications

ECO 6409

Instructor Info



Dr. Fatma B. Gunay



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



MAT 327



fgunay@ufl.edu

Course Info



Jan 4 - February 17



Tuesday, Thursday



9:35am - 11:30am



HGS140

TA Info



Dilan Alpergin



Office Hrs: Wednesday 3:30pm - 4:30pm



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.

Lectures

ECP6409 Game Theory applied to Business Decisions is offered in the HyFlex format. It will be delivered in person in HGS140, but lectures will also be streamed synchronously over Zoom. You can choose to attend lectures in person, or watch remotely using the Zoom link provided here: [Zoom Lectures](#). Please note that this delivery modality could change as the public health situation evolves. The University, Department of Economics and I will continuously assess this situation. Regularly check your Canvas inbox and UF email account for future information on class delivery. If you attend face-to-face, masks are expected in all economics classes. <https://coronavirus.ufl.edu/health-guidance/>. Additionally, 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 30 minutes. Hence, every class day you will have multiple lectures to watch.

Our class sessions will 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 in-class exams. The exams are on January 25th and February 17th 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. All students have to take the exams in-class.

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 (either on Tuesday or Thursday in-class, but accessible over Canvas during the class time), which include the topic covered during the week. The questions are designed in such a way that following the 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.

Our TA, Dilan, will grade your quiz within a week of submission and give you a feedback.

Assignments

There will be an homework assignment each week. I will post them on Thursday afternoons. They are due on Tuesday at 9am. Assignments will be posted on Canvas. Please follow the instructions on Canvas to submit your assignment. I will drop the lowest grade out the 6 assignments.

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, please email Dilan, so that she places 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.

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.

Diversity and Inclusion

I would like to create a learning environment for my students that supports different perspectives, thoughts, experiences, and identities. To help me accomplish this, please let me know if you have a name / set of pronouns that differ from the official UF records. If you believe that your performance in the classroom is being affected by outside factors, do not hesitate to contact me in person, electronically or even anonymously.

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.

Use of Course Materials

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Class Schedule

DATE	TOPICS	READINGS	ASSESSMENTS
Week 1 (1/4-1/10)	Introduction	Ch 1 (DN) Ch 1, 2 (DSR)	HW1, Quiz1
	Prisoners' Dilemma	Reading 1	
	Game Fundamentals	Worksheet 1	
Week 2 (1/11-1/17)	Sequential Move Games	Ch 2 (DN) Ch 3 (DSR)	HW2, Quiz2
		Reading 2	
		Worksheet 2	
Week 3 (1/18-1/24)	Simultaneous Move Games;	Ch 3,4 (DN)	HW3, Quiz3
	Dominant / Dominated Strategies	Ch 4 (DSR)	
	Nash Equilibrium	Worksheet 3	
1/25	EXAM I		
Week 4 (1/25-1/31)	Multiplicity of Equilibria	Ch 5,9 (DN)	HW4, Quiz4
	Coordination Games	Ch 7 (DSR)	
	Randomization and Mixed Strategies	Worksheet 4	
Week 5 (2/1-2/7)	Repeated Prisoners' Dilemma	Ch 13 (BR)	HW5, Quiz5
	Reputation	Worksheet 5	
Week 6 (2/8-2/14)	Applications	Ch 6 (DN)	HW6, Quiz6
		Ch 7 (DN)	Group HW
		Reading 3	
		Worksheet 6	
Week 7 (2/15-2/17)	Review		
2/17	EXAM 2		