DEPARTMENT OF BUSINESS AND ECONOMICS
COURSE SYLLABUS

Course Details				
Code		**Academic Year**		**Semester**
BE037		2021-2022		
Title		**T**	**A**	**L**	**ECTS**
Game Theory		3	1	0	10

Language	English					
Level	**Master**		**Doctorate**	**X**		
Department / Program	PhD in Business and Economics					
Forms of Teaching and Learning	Face-to-Face					
Course Type	**Compulsory**		**Elective**	**X**		
Objectives	The goal of this course is to work on formal models of non-cooperative games and implementation. The emphasis will be on (full) implementation under bounded rationality. Moreover, modeling in game format and analyzing the mutual interdependence in the strategic decision-making mechanisms of economic actors and as such to interpret economic environments better will be driving force behind the course. The course will aim also correctly applying game theory to economic environments by considering the limits of applicability of game theory and hence predicting equilibria correctly if they exist.					
Content	Non-cooperative normal or extensive games are classified according to whether they are complete or perfect information games and both theories and economic applications of these games are introduced. Advanced topics such as Markov-perfect equilibrium will be briefly mentioned if time permits. Basically, games of all forms (perfect, imperfect information), behavioral implementation, ex-post and ex-ante (deterministic and probabilistic) implementations and Nash implementation will be given. We will focus also on what happens to the equilibrium if rationality does not exist in implementation framework.					
Prerequisites						
Coordinator						
Lecturer(s)						
Assistant(s)						
Work Placement						

Recommended or Required Reading	
Books / Lecture Notes	**Fudenberg, D. and J. Tirole, Game Theory, The MIT Press, 1991**
Other Sources	Gibbons, R., Game Theory for Applied Economists, Princeton University Press, 1992.

Additional Course Material	
Documents	**Lecture Notes and Books**
Assignments	Assignments

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Exams	Midterm and Final	
Course Composition		
Social Sciences		%100
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		%

Assessment

Activity	Count	Percentage (%)
Midterm Exam		30
Quiz		
Assignments		30
Attendance		
Recitations		
Projects		
Final Exam		40
	Total	**100**

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	3	42
Self-Study	14	2	28
Assignments	12	5	60
Presentation / Seminar Preparation			
Midterm Exam	1	60	60
Recitations			
Laboratory			
Projects			
Final Exam	1	90	90
		Total Work Load	**280**
		ECTS Points (Total Work Load / 28)	**10**

Course Learning Outcomes

1	To identify strategic stiations and represent them as games
2	To solve simple games using various techniques
3	To analyse economic situations using game theoretic techniques

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4	To recommend and prescribe which strategies to implement
5	
Weekly Content	
1	Introduction
2	Games of Normal Form under Perfect Inf.
3	Games of Normal Form under Perfect Inf.
4	Games of Extensive Form under Perfect Inf.
5	Games of Extensive Form under Perfect Inf.
6	Games with Imperfect Information
7	Games with Imperfect Information
8	Behavioral Implementation, Ex-post and Ex-ante implementation
9	Midterm
10	Implementation without rationality
11	Implementation without rationality
12	Implementation via rights structures
13	Nash Implementation
14	Nash Implementation
15	Overview

Contribution of Learning Outcomes to Program Objectives (1-5)

CLO	P1	P2	P3
1	4	3	5
2	4	5	5
3	3	3	4
4	5	4	4
5			

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High
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