SUBJECT DENOMINATION: GAME THEORY		
DEGREE: ECONOMICS	COURSE: 2º	SEMESTER: 1º

CRONOGRAM OF THE SUBJECT

WEEK	SESSION	DESCRIPTION OF THE CONTENTS OF EACH SESSION	GROUP (Put an X)		Point out the space needed (classroom, audiovisual etc.)	STUDENT WORK DURING THE WEEK		
			BIG	SMALL		DESCRIPTION	CLASS HOURS	WORKING HOURS per week (maximum) 7 H
1	1	The strategic interaction problem Elements of a game and its representation The role of rationality	X			Lectures notes and solving problems assigned	1,5	5
1	2	Examples of games and their normal form		X		Presenting and discussing the solutions to exercises and homework.	1,5	
2	3	**Static Games:** ▪ Solution concepts. ▪ Strictly dominant strategies ▪ Rationalizable strategies ▪ Nash equilibrium	X			Lectures notes and solving problems assigned	1,5	5
2	4	Nash equilibrium in the examples of session 1.2. Nash equilibrium and the social optimum (the problem of public goods) Practical exercises		X		Presenting and discussing the solutions to exercises and homework.	1,5	
3	5	Mixed strategies. Matching Pennies game Mixed and rationalizable strategies	X			Lectures notes and solving problems assigned	1,5	5
3	6	Solving for mixed strategies, the best response functions		X		Presenting and discussing the solutions to	1,5	

		and equilibrium definitions				exercises and homework.		
4	7	Nash equilibrium with continuum variables and economic applications I ▪ Quantity competition ▪ Price competition ▪ Location	X			Lectures notes and solving problems assigned	1,5	5
4	8	Practical exercises with economic applications		X		Presenting and discussing the solutions to exercises and homework.	1,5	
5	9	**Dynamic Games (DG):** Introduction to DG. Types of DG. Extensive form (EF). Information sets and strategies. From extensive form to normal form	X			Lectures notes and solving problems assigned	1,5	5
5	10	Review on static games Midterm		X		Presenting and discussing the solutions to exercises and homework.	1,5	
6	11	Solution concepts for dynamic games with perfect information: ▪ Backward induction ▪ Subgame Perfect Nash Equilibrium. ▪ Non credible threat and "non credible beliefs".	X			Lectures notes and solving problems assigned	1,5	5
6	12	Practical exercises for the representation of DG and solving FOR their equilibrium		X		Presenting and discussing the solutions to exercises and homework.	1,5	
7	13	Dynamic games with imperfect information: Information sets. Solution concepts.	X			Lectures notes and solving problems assigned	1,5	5
7	14	Examples of DG with imperfect information. Problem solving		X		Presenting and discussing the solutions to exercises and homework.	1,5	
8	15	Economic Applications: ▪ The first mover advantage, who wins and who lose when going from a SG to a DG.	X			Lectures notes and solving problems assigned	1,5	5

		▪ Sequential quantity competition ▪ New technology adoption ▪ Entry into a market						
8	16	Exercises on economic applications.		X		Presenting and discussing the solutions to exercises and homework.	1,5	
9	17	The bargaining process - The role of the discount factor, of players patience, of the number of rounds, of the order of offers and counter-offers.	X			Lectures notes and solving problems assigned	1,5	5
9	18	Bargaining examples: wage bargaining, acquisitions . Stage Mechanisms: the King Salomon		X		Presenting and discussing the solutions to exercises and homework.	1,5	
10	19	**Repeated Games: Cooperation and Reputation.** - Cooperation in repeated games: - ¿Is cooperation easy?: tit for tat. - ¿Is cooperation feasible?: Trigger strategies - Reputation: its strategic use.	X			Lectures notes and solving problems assigned	1,5	5
10	20	Modeling and solution of repeated games		X		Solutions to problems and their discussion.	1,5	
11	21	Strategic interaction- Lessons: ▪ The role of credibility ▪ The role of commitment ▪ "Burn the ships". ▪ The irrationality ▪ "An offer you can't refuse"	X			Lectures notes and solving problems assigned	1,5	5
11	22	Additional exercises of repeated games and case discussions based on the role of commitment Midterm		X		Presenting and discussing the solutions to exercises and homework.	1,5	
12	23	**Incomplete Information.** Bayesian Games The role of players' types Bayesian Nash Equilibrium	X			Lectures notes and solving problems assigned	1,5	5

			X			Presenting and discussing the solutions to exercises and homework.	1,5	
12	24	Exercises. "Love at first sight".		X		Presenting and discussing the solutions to exercises and homework.	1,5	
13	25	Economic applications: ▪ Uncertainty about rivals' costs ▪ Auctions	X			Lectures notes and solving problems assigned	1,5	5
13	26	Practical exercises on Bayesian Games		X		Presenting and discussing the solutions to exercises and homework.	1,5	
14	27	Review of Game Theory Midterm	X			Lectures notes and solving problems assigned	1,5	4
14	28	Presentation of assigned cases: experiments, mixed strategies on penalty kicks, auctions, etc…		X		Presenting and discussing the solutions to exercises and homework.	1,5	
SUBTOTAL							**42 + 68 = 110**	
15		Make up exams, tutorships, review of problem sets, etc						
16-18		Preparation of the exam and exam					3	
TOTAL							**150**	