Universidad Carlos III de Madrid

DENOMINACIÓN ASIGNATURA: Game Theory		
POSTGRADO: MÁSTER UNIVERSITARIO EN ECONOMICS Profesor/a: Francisco Marhuenda	ECTS: 6	CUATRIMESTRE: 1

CRONOGRAMA DE LA ASIGNATURA (versión detallada)

SEMANA	SESIÓN	DESCRIPCIÓN DEL CONTENIDO DE LA SESIÓN (En su caso, incluir las recuperaciones, tutorías, entrega de trabajos, etc)	GRUPO (marcar X)		Indicar espacio Necesario distinto aula (aula informática, audiovisual, etc..)	TRABAJO DEL ALUMNO DURANTE LA SEMANA		
			1	**2**		DESCRIPCIÓN	HORAS PRESENCIALES	HORAS TRABAJO Semana Máximo 7 H
1	1	Decision Analysis. Introduction. Examples. Decision trees. Decision under uncertainty. The value of information. Buying perfect information. Bayesian updating.	X				1.5	2
1	2	Exercises on Decision Analysis		X			1.5	
2	3	Normal form games. Definition of a Game. Assumptions. Representation of a game. Best response correspondence. Nash equilibrium. Pure strategy Nash equilibria.	X	X			1.5	2
2	4	Exercises on Normal Form Games	X	X			1.5	
3	5	Computing NE. Weak and strict dominance. Dominance Solvability. Successive Elimination of Dominated Strategies.	X				1.5	2

3	6	Examples of NE		X			1.5	
4	7	Mixed strategy Nash equilibria Interpretation.	X				1.5	2
4	8	Finding mixed strategy NE. Examples. Discussion of multiple NE.		X			1.5	
5	9	Extensive Form Games. Sequential Games. Representation of sequential games. Equilibrium in sequential games.	X				1.5	2
5	10	Information sets. Subgames. Subgame Perfect Nash Equilibrium.		X			1.5	
6	11	Extensive Form Games. Noncredible Threats. Computation of SPNE. Backward induction.	X				1.5	2
6	12	Examples and applications of extensive form games.		X			1.5	
7	13	Applications of game theory. Credibility and Commitment. Strategic Commitment. Removing Strategies. First-Mover advantage. Burning Money. Option Value. Option Value with Competition.	X				1.5	2
7	14	Exercises.		X			1.5	

8	15	Oligopoly. The Cournot Model of Oligopoly. The Bertand Model of Oligopoly with Differentiated Products. The Bertand Model of Oligopoly with Homogenous Products. Homogenous Products and competition in quantities, sequential moves: the Stackelberg Model. First Mover Advantage.	X				1.5	2
8	16	Exercises on Oligopoly		X			1.5	
9	17	Dynamic Competition. Repeated Games. Definition and examples. Repeated Prisoners' Dilemma. Games repeated finitely many times. Games repeated infinitely many times. Discount factors. Trigger strategies. Tit-for-Tat. Dynamic versus Static Oligopoly Models.	X				1.5	2
9	18	Exercises on repeated games		X			1.5	
10	19	Cooperative Pricing. Dynamic Competition versus Static Competition. Conditions for Collusion.	X				1.5	2
10	20	Exercises on Cooperative Pricing		X			1.5	
11	21	Static Games with Incomplete Information. Imperfect Information versus Incomplete Information. Bayesian Games. Definition. Bayesian Nash equilibrium. Cournot oligopoly with incomplete information.	X				1.5	2

11	22	Exercises on Static Games with Incomplete Information.		X			1.5	
12	23	First-Price, Sealed-Bid Auctions. Continuous types, Grab the dollar.	X				1.5	2
12	24	Exercises on auctions		X			1.5	
13	25	Dynamic Games with Incomplete Information. Perfect Bayesian Equilibrium. Sequential rationality. Examples.	X				1.5	2
13	26	Exercises on Dynamic Games with Incomplete Information.		X			1.5	
14	27	Signaling Games. Pooling and separating equilibria. Signaling Costs. Examples.	X				1.5	2
14	28	Final Exam		X			1.5	
TOTAL HORAS							**42**	**28**