MODELLO D (inglese)

General Information	
Academic subject	**GAME THEORY FOR BUSINESS DECISION**
Degree course	**Master of Science in Marketing**
Curriculum	
ECTS credits	8
Compulsory attendance	No
Language	English

Subject teacher	Name Surname	Mail address	SSD
	Ada SPIRU	ada.spiru@uniba.it	SECS-P/06

ECTS credits details			
Basic teaching activities			

Class schedule	
Period	2nd semester
Year	2019-2020
Type of class	Front lessons, exercises and seminars

Time management	
Hours	56
Hours of lectures	36
Tutorials and lab	20

Academic calendar	
Class begins	May 2020
Class ends	July 2020

Syllabus	
Prerequisites/requirements	
Expected learning outcomes (according to Dublin Descriptors) (it is recommended that they are congruent with the learning outcomes contained in A4a, A4b, A4c tables of the SUA-CdS)	*Knowledge and understanding* This course introduces students to the basic tools of game theory, focusing on its applications to the decision problems a manager may face. The course provides some basic tools and general concepts that will be applied to several contexts, ranging from firm competition in oligopolistic markets, auctions, voting behaviour, to the internal organization of the firm and labour contracts. At the end of the course the students should be able to build and analyse mathematical models expressed by the formalism of the theory of games, to recognize the strategic elements of an interactive decision problem and a sufficient capability of using the logic of game theory to describe in a schematic way the behaviour of complex situations and to reach a final decision. *Applying knowledge and understanding* At the end of the course, the student must have acquired a good ability to understand and use dynamic models and schemes expressed in game theory formalism in situations similar to those presented in the course. The student must be able to correctly apply the formulation studied in the representation and modelling of real systems. *Making informed judgements and choices*

	At the end of the course the student must have acquired a good ability to analyse topics and problems of dynamic modelling and strategic interaction. *Communicating knowledge and understanding* At the end of the course, the student must have acquired a good ability to clearly communicate their affirmations and considerations regarding the program carried out in class and in-depth on the recommended texts. *Capacities to continue learning* At the end of the course the student must have acquired a good capacity for autonomy in studying the discipline, in reading and interpreting cooperative and non-cooperative, static and dynamic models in economics.
Contents	The course unit contents: • Introduction to game theory: games and their representations, solving a game. • Dominance (strict and weak). Applications: price wars, auctions. • Static games and Nash equilibrium. Applications: price and quantity competition, strategic positioning, partnerships. • Mixed strategies. Applications: monitoring quality. • Dynamic games with perfect information and subgame perfect equilibrium. Applications: bargaining, brand proliferation, strategic moves. • Dynamic games with imperfect information and subgame perfect equilibrium. Applications: product differentiation, entry deterrence. • Repeated games. Applications: cartels, vertical relations and reputation.
Course program	
Bibliography	Dixit A.K., Skeath S., Reiley D.H., Games of strategy. New York: W.W. Norton & Company, 2015. Osborne, Martin J., An introduction to game theory. New York: Oxford university press, 2009.
Notes	Some basic knowledge of microeconomics (utility function, cost functions) is required. Although technical difficulties will be kept at minimum, some basic knowledge of mathematical analysis, like finding maxima of simple functions (through derivatives), will be helpful.
Teaching methods	The course is organized in a series of standard lectures, some practice sessions, dedicated to the solution of problems and exercises combines with class discussions/problem sets, and group presentation of previously paper assigned. Teaching and learning strategies: • Lecturing • Problem based learning • Case studies • Paper presentation

Assessment methods (indicate at least the type written, oral, other)	Written Exam - 75% Group Paper Presentation - 25% The written final exam will consist of exercises and multiple-choice questions from the textbook, class handouts and case studies discussed.
Evaluation criteria (Explain for each expected learning outcome what a student has to know, or is able to do, and how many levels of achievement there are.	At the end of the course the student evaluation will be based on: 1) the ability of translation an economic problem into a game; 2) the ability of solving the game using the solution concepts introduced during the course; 3) the ability of giving an economic interpretation to the solutions of the game; 4) develop a critical ability and the capacity to formulate research questions and to develop research autonomously; 5) conduct work in groups and present the results in public.
Further information