Economics for Business II

Academic Year: (2017 / 2018) **Review date: 26-04-2017**

Department assigned to the subject: Business Administration Department

Coordinating teacher: RUIZ VERDU, PABLO

Type: Compulsory ECTS Credits : 5.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Business Economics I
Statistics

OBJECTIVES

This course introduces the basic concepts of Game Theory and shows how they can be applied to analyze a wide range of topics in all areas of Business Studies. By the end of the course, students should be able to i) apply game-theoretical tools to think rigorously about problems in which there is strategic interaction (almost any interesting problem fits this description); ii) understand the models of strategic interaction published in the leading academic journals across fields; and iii) be able to build their own models to analyze strategic interaction problems of interest.

Although we will study many applications of our game theoretical tools, the emphasis in the course will be placed on how to apply those tools to study problems of interest, and not so much on the individual applications. However, along the way we will study the building blocks of Industrial Organization (and the economic analysis of Strategy) and Agency Theory (and, thus, of Corporate Finance, Organizational Economics, and Personnel Economics). Time permitting, we will also analyze applications in Accounting and Marketing.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Game Theory: Basic Concepts
1.1. Games and strategies.
1.2. Simultaneous-move games.
1.2.1. Domination.
1.2.2. Nash equilibrium.

2. Simultaneous-move Games: Applications.
2.1. Models of imperfect competition
2.1.1. Cournot (quantity) competition
2.1.2. Bertrand (price) competition
2.1.3. Product differentiation and price competition

3. Dynamic Games
3.1. Subgame perfect equilibrium
3.2. Infinitely repeated games

4. Dynamic Games: Applications
4.1. Models of imperfect competition
4.1.1. Sequential competition models
4.1.2. Collusion
4.1.3. Market Entry

5. Games with Incomplete Information
5.1. Bayesian equilibrium
5.2. Perfect Bayesian equilibrium
5.4. Applications: Entry deterrence and predation

6. Adverse Selection and Signaling
6.1. Adverse selection
6.2. Signaling

7. The Principal-Agent Model
7.1. The basic setup
7.2. Moral hazard and incentives
7.3. Team incentives
7.4. Screening agents

LEARNING ACTIVITIES AND METHODOLOGY

Problem sets. There will be a problem set per lecture. Some of the problem sets will be aimed at clarifying theoretical concepts previously discussed in class. However, since the goal is that you learn to apply game theoretical tools, other problem sets will ask you to work on the applications yourself before we discuss them in class. Therefore, it is of paramount importance that you work hard on the problem sets. The lectures devoted to applications will be targeted to an audience that has done that prior work.

Readings. In the syllabus, I describe the main references for the course and recommend specific readings for each section. I will expect you to read the assigned readings prior to class. For some parts of the course, I will also distribute notes prior to the lectures.

ASSESSMENT SYSTEM

The final grade will be determined by the grade on the final exam (80% of the grade) and the grade on an assignment in which the student will be asked to analyze in depth a research paper (20%).

% end-of-term-examination:	80
% of continuous assessment (assigments, laboratory, practicals…):	20

BASIC BIBLIOGRAPHY

- Bolton, P. and M. Dewatripont Contract Theory, The MIT Press, 2005
- Gibbons, R Game Theory for Applied Economists, Princeton University Press, 1992
- Mas-Colell, A., M. D. Whinston, and J. R. Green Microeconomic Theory, Oxford University Press, 1995