

Academic Year: ( 2022 / 2023 )

Review date: 21-12-2021

Department assigned to the subject: Economics Department

Coordinating teacher: SIOTIS , GEORGIOS

Type: Electives ECTS Credits : 6.0

Year : Semester :

**REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)**

Microeconomics, Game Theory

**OBJECTIVES**

The objective of this course is to introduce the student to understand strategic behaviour of firms. To achieve this goal the student needs to acquire certain skills, capacities and attributes.

After successfully completing the course the student will be able to:

- Understand the working of oligopolistic markets and the decisions that firms face in these markets.
- Understand concepts such as market concentration and market power.
- Apply these concepts (above) to markets where the number of firms is small.
- Understand firm strategies such as price discrimination, entry deterrence or choosing a market location. For example, firms may choose a pricing strategy that exploits consumer transportation costs to increase market power.

We can classify capacities into two groups; specific and generic capacities. Under specific capacities, after successful completion of the course, the student will be able to:

- Obtain information on prices and market shares.
- Calculate concentration indices in markets.
- Calculate the market power of a firm.
- Be able to identify variables that increase market competition and similarly, variables that increase a firm's market power.

Under general capacities, during the course we will be working on:

- Develop a deeper understanding of market structure and see how the knowledge from this course can be applied to better understand certain specific problems.
- Acquiring tools that will enable the students to develop descriptive studies of industry.
- Improve the analytical capacity of the student.
- Improve both written and verbal skills.

Regarding student attitude after course completion; students should have:

- A critical understanding of market functioning and fundamentals of oligopolistic markets (mainly firm strategic behaviour). This will enable them to understand factors that influence market competition in oligopolistic markets.

**DESCRIPTION OF CONTENTS: PROGRAMME**

\* Study of concentration indices and monopolistic behaviour with both single and multi-product firms. Understand how price discrimination facilitates increase in firm's profits.

\* Understanding strategic interaction between firms in oligopolistic markets when firms compete in prices and quantities. Generalize these models to include time horizon, capacity restrictions, and product differentiation (both horizontal and vertical). Study the strategic effect of capacity change on firm entry decision (impeded entry) or effect of location decision on firm market power.

\* Detailed Programme:

## 1. Introduction

## 2. The Monopoly problem

## 2.1 Single-product Monopoly

## 2.2 Multi-product Monopoly

## 2.3 Price-discrimination

## 2.4 Bundling and Tying

## 3. Oligopoly Models

## 3.1 Strategic Behaviour

- 3.2 Cournot Model
- 3.3 Stackelberg Model
- 3.4 Entry Models
- 3.5 Bertrand Model
- 3.6 Tacit Collusion
- 3.7 Capacity Constraints

#### 4. Product Differentiation

- 4.1 Definitions
- 4.2 Horizontal Differentiation
  - 4.2.1 Cournot Model
  - 4.2.2 Bertrand Model
- 4.3 Horizontal Differentiation with Location
  - 4.3.1 Hotelling Model
  - 4.3.2 Salop Model
- 4.4. Vertical Differentiation

### LEARNING ACTIVITIES AND METHODOLOGY

This course has three key components. The first is the use of examples with real world data that will enable the student to address the underlying questions. The second component is the use of theoretical models to develop analytical capacities to be able to formalize the underlying question. The third component is using numerical examples to apply different models to various market situations. The problems analysed are of both practical and theoretical importance. The student is expected to look for similar situations in the real world to try to understand the implications of the theoretical models. For example, the student is asked to study how airlines, cinemas, etc. use price discrimination on the internet. Problem solving classes are included where students are expected to solve problems directly related with theory.

### ASSESSMENT SYSTEM

The course is organized so as to continually evaluate the student. Students are expected to submit problems, take two mid-term exams and a final exam. The practice sessions include numerical examples and problem solving using the theoretical concepts studied in class.

It is mandatory to get a minimum of 3,5 in the mark of the continuous assessment to take the final exam.

<b>% end-of-term-examination:</b>	60
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	40

### BASIC BIBLIOGRAPHY

- Cabral, L. , "Introduction to Industrial Organization", MIT Press, 2000 (<http://luiscabral.org/economics/books/iio2/>)
- Tirole, J. ¿La Teoría de la Organización Industrial¿, Editorial Ariel , 1990.