Industrial Organization I

Academic Year: (2021 / 2022) **Review date: 25-06-2020**

Department assigned to the subject: Economics Department

Coordinating teacher: SCHNEIDER , JOHANNES SIEGFRIED

Type: Electives ECTS Credits : 6.0

Year : 1 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Students taking the class are expected to have solid knowledge of Calculus; previous experience in Game Theory and Microeconomics especially is very useful, as the class builds on and departs from the basic models of Perfect Competition and Monopoly, the knowledge of which is the basis of comparison of the models of Oligopoly which are our main focus.

OBJECTIVES

This class aims at teaching students how markets work after we depart from Perfect Competition where prices are set in the market and efficiency is attained. Market power and strategic considerations of firms will then determine prices and quantities; the welfare effects of market power should then be understood and analyzed.
Through the class, students will be familiarized with the way a monopoly works depending on potential pricing strategies (uniform price and price discrimination), production strategies (single good and many goods), as well as other marketing strategies (bundling and tying).
We will also study the basic models of Oligopoly with firms competing in quantity (Cournot, Stackelberg) and price (Bertrand, price competition with capacity constraints). For this part of the course we will be using game theoretic concepts to define equilibrium prices and quantities, due to the strategic considerations of firms in an Oligopoly. Departing from one shot game environments, we will also study optimal firm strategies in a repeated game in order to understand collusion.
Finally, we will consider markets with horizontally differentiated goods (Hotelling Model); now firms will be faced with an extra strategic decision, on the optimal differentiation level. Prices/Quantities will then depend on the level of firms' differentiation.

After the end of the course, the students are expected to know how to set up a firm's maximization problem depending on the type of market they are in and derive the first order conditions of optimality, thus computing equilibrium prices and quantities. Both graphical, algebraic and analytical skills are expected from the students, who should also be able to provide intuition about their mathematical results.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction and Concentration Measures: overview of the most commonly used ones and their purpose. Definition of markets and their consequences for establishing market power.
[Tirole 5.5; Cabral 2.3; Clarke pp 2.1.1, 2.1.2, Shy 8.1]
2. Monopoly and Price Discrimination. Revision of the most common strategies of price discrimination. Other marketing strategies such as Tying and Bundling.
2.1 Monopoly
2.2.Price Discrimination
[Tirole 3.1, 3.2, 3.3.]
2.3. Other Marketing Strategies
[Shy ch. 14]
2.4. Multiproduct Monopoly
[Tirole 1.1.2]
3. Strategic Behaviour and Oligopoly
3.1 Strategic Behavior
[Tirole, Introduction until part II]
3.2 The Bertrand Model
[Cabral, Luis 3.3, Tirole 5.1-5.2]
3.3 Price competition with capacity constraints
[Cabral, Luis 3.4, Tirole 5.3]
3.4 The Cournot Model

[Cabral, Luis 3.2., Tirole 5.4]
3.5 The Stackelberg Model
[Cabral, 3.5, Segura cap. 5, Shy 6.2, Church y Ware 13.2]
3.6 Entry, Spence-Dixit Model ¿if time allows
[Tirole 8.1-8.2.2.1 (except 8.1.3), Church y Ware 13.3]
3.7 Tacit Colusion: Repeated Games
[Tirole 6.3]
4. Product Differentiation: In the context of oligopoly we analyze price competition with differentiated products.
4.1. Definitions
[Cabral, Luis 8.4]
4.2. The Hotelling Model ¿ the linear city
[Tirole 7.1.1]
5. Basic notes for empirical work
6. Empirical assessing the effect of market structure on prices
[Davis and Garcés chapter 5, pp 230-255]

LEARNING ACTIVITIES AND METHODOLOGY

Course Teaching will involve:

A) Theory classes: the basic models used will be analyzed-assumptions, methodology and results. Small exercises will be solved as much as time allows.
B) Exercise classes: students will be informed in the theory classes about the exercises to be solved here.

Students are expected to also work at home, consulting if they wish the bibliography. In the last theory lecture students will need to present a published paper of their choice, relevant to the class material; this aims at students learning how to focus on the most important features of papers and be able to clearly connect the assumptions with the results through the methodology used.

ASSESSMENT SYSTEM

Final Exam: 60% of Final Grade
Midterm Exam+Presentation: 40% of Final Grade

% end-of-term-examination:	60
% of continuous assessment (assigments, laboratory, practicals…):	40

BASIC BIBLIOGRAPHY

- Jean Tirole The Theory of Industrial Organization, MIT Press, 1990
- Jeffrey Church, Roger Ware Industrial Organization: A Strategic Approach, McGraw-Hill, 2000
- Oz Shy Industrial Organization: Theory and Practice, MIT Press, 1996
- Roger Clarke Industrial Economics, Blackwell, 1999