

# Industrial Organization

6 ECTS

TERM 2

## Professor

Prof. Rosa Ferrer and Prof. Sandro Shelegia

## Prerequisites to enroll

To enroll in this course, the student should have attended and passed the Econometrics course from the first term and have some background in Industrial Organization

## Overview and objectives

From its origins, Industrial organization (IO) primary focus has been the study of imperfect competition and the organization of markets. However, IO models and tools have also been used in a much wider range of topics such as Health Economics, Law & Economics, Finance, Economics of Innovation, etc. In particular, IO focuses on how firms and consumers behave in various market structures ranging from monopoly to different types of oligopoly. Therefore, IO is also closely related to Managerial Economics and Marketing.

The course is designed to familiarize students with classic as well as recent developments in IO. The first part covers empirical work in IO, which has grown

exponentially in the recent decades thanks to the combination of modern econometric tools with serious economic theory models and the availability of consumer and firm level datasets. The second part focuses on the theory of IO predominantly using game theoretical tools.

A wide variety of students may be interested in this class. Students interested in strategic behavior and issues related to information will benefit. The skills are useful well outside IO, with recent uptake in Macro and International Trade where careful modeling of market imperfections as well as strategic consideration has become a norm. The empirical part introduces students to several estimation techniques and possible applications.

## **Course outline**

Introduction

Part 1. Methods in empirical IO (Taught by Rosa Ferrer)

1. Introduction: structural vs. reduced form approach
2. Measurement of market power
3. Market power and conduct with homogeneous products.
4. Market power and product differentiation. Demand estimation of differentiated products

Part 2. IO Theory (Taught by Sandro Shelegia)

1. Monopoly pricing
2. Static Competition
3. Product Differentiation
4. Price Discrimination
5. Incomplete Information
6. Dynamic Competition

The ordering of these sections may differ. Some sections will only be covered if time permits.

## **Required activities**

The course is structured into weekly lectures, which will be given by Prof. Rosa Ferrer (20 hours) and Prof. Sandro Shelegia (20 hours). In addition, the students will have to hand in biweekly assignments.

## **Evaluation**

Exam (70%) and problem sets / assignments (30%). Students need a minimum grade of 3 in the final exam in order to average with the problem sets.

## **Materials**

The main course material consists of a detailed set of slides. This is supplemented with recommended readings of selected papers per chapter.

Useful background books are the following:

Belleflamme, Paul, and Martin Peitz. "Industrial organization: markets and strategies," Cambridge University Press, 2015.

Davis, Peter and Eliana Garces, 2009, Quantitative Techniques for Competition and Antitrust Analysis, Princeton University Press.

Tirole, Jean. "The theory of industrial organization," MIT press, 1988.

## **Other materials**

- Andersen, de Palma and Thisse, "Discrete Choice Theory of Product Differentiation"
- Armstrong, Mark, and Robert H. Porter, eds. "Handbook of industrial organization," Vol. 3. Elsevier, 2007.
- Klemperer, Paul (2004) Auctions: Theory and Practice (2004). Princeton University Press.
- Berry, S., Levinsohn, J., & Pakes, A. (1995). Automobile prices in market equilibrium. *Econometrica: Journal of the Econometric Society*, 841-890.
- Nevo, A. (2001). Measuring market power in the ready-to-eat cereal industry. *Econometrica*, 69(2), 307-342.
- Wolinsky, A. (1986). True monopolistic competition as a result of imperfect information. *The Quarterly Journal of Economics*, 101(3), 493-511.

## Competencies

- To (be able to) communicate with determination and in the English Language, the results and implications of the required analytical study using a language that the receiver can relate to.
- To work within a heterogeneous team of researchers as economic analyst using specific group techniques.
- That students know how to apply the acquired knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
- That the students be able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited,

include reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.

That the students be able to communicate their conclusions and the knowledge and the ultimate reasons that sustain them to both, specialized and non-specialized publics in a clear and unambiguous way.

To identify and apply the insights of the theory, the models, and the analytical tools of modern economy to its global dimension.

To understand and apply the quantitative methods used to solve complex problems of the economy

To evaluate, with theoretical and quantitative instruments, the complex realities of the economy to understand the way it works.

### **Learning outcomes**

Recognizes the statistical, econometric and analytical instruments required for economic analysis.

Applies analytical and quantitative tools to economic problems, formulating the suitable hypotheses and using the necessary tools.