

# ECO 4934 (07B8) Industrial Organization Syllabus

University of Florida

Fall 2017

**Instructor:** Germán Bet

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**Course location:** Room HVNR 250

**Course time:** Mondays & Wednesdays 1:55PM-3:50PM (Periods 7 & 8)

**Office:** 321 Matherly Hall

**Office Hours:** Mondays & Wednesdays 4PM-5PM

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**Office Hours:** Fridays 10AM-12PM

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## Course Description:

Industrial organization is the branch of Microeconomics that is concerned with the study of imperfect competition (i.e., functioning of markets with few competitors). The presence of a small number of competitors creates situations of strategic interactions among the market participants. The course will explore the wide range of possible market structures and the competitive and cooperative strategies employed by profit-maximizing firms when there are few firms, entry barriers, differentiated products,

and/or imperfect information. The course uses Microeconomics and basic Game Theory to study firm behavior, market structure and performance of industries. We will start with a review of the theory of the firm (cost and demand functions) and the conduct and performance of monopolies. The course proceeds with the analysis of game theoretic methods to study oligopolistic firm behavior in a variety of scenarios, ranging from simple forms of static competition to complex dynamic games involving strategic behavior. We will also study entry barriers, entry deterrence, mergers, different modes of non-price competition (such as advertising or Research and Development), network issues, and auctions. The course combines theoretical models with some noteworthy real world applications and briefly considers antitrust law.

## Prerequisites:

Principles of Microeconomics (ECO 2023), Principles of Macroeconomics (ECO 2013), Intermediate Micro (ECO 3101), and Survey of Calculus (MAC 2233). Most of the course is self-contained but I will assume familiarity with basic microeconomic theory, linear algebra and basic calculus. We will be studying a number of calculus-based profit maximization models so you should be comfortable drawing and interpreting graphs, taking simple partial derivatives, finding Nash Equilibria, and using algebra to manipulate equations. The course includes brief refreshers on basic microeconomic theory and basic game theory. However, if you are not familiar with these topics, you should make time out of class to review them in detail.

## Textbook and Readings:

The basic and required textbook for this course is Pepall, Richards and Norman, *Industrial Organization: Contemporary Theory and Applications*, 2014, Fifth Edition (PRN). The textbook not only provides a look into the problems, but also applications and examples. Most (but not all) of the material from class will be covered in the textbook. You will be responsible for material from class that is not covered in the textbook.

The course will cover topics in Basic Game Theory and legal cases. A separate textbook which is recommended but not required, and covers the same topics in Basic Game Theory is Gibbons, *Game Theory for Applied Economists*. For further readings on legal cases you can check John Kwoka and Lawrence White, *The Antitrust Revolution*. These are optional readings.

## Evaluation and Grading:

Evaluation will be made on a final examination (25% of the total grade), two midterm examinations (25% each), problem sets (15%), and class participation (10%). The midterm examinations will be held on Wednesday September 27 and Wednesday November 1, and the final examination from 10am to 12pm on Thursday, December 14.

The course is divided into three parts, each followed by a cumulative exam that focuses mostly on the current part. Exams will feature a combination of problem solving and essay questions. Make-up exams will be administering only on those circumstances in which you cannot take an exam for a valid reason (e.g., illness or emergency). **In that case, you should notify me prior to the start of the examination.** A zero exam score will be assigned if you miss an exam for an unexcused reason.

There will be at least 6 problem sets. Due dates for the assignments will be announced in class. All assignments are due before the class starts on the due date. Late submissions will not be accepted and will receive zero credit. Unlike exams, problem sets are graded based on completion and effort, not correctness.

Your final letter grade will be determined as follows:

93 – 100	<i>A</i>
90 – 92.99	<i>A –</i>
87 – 89.99	<i>B +</i>
83 – 86.99	<i>B</i>
80 – 82.99	<i>B –</i>
77 – 79.99	<i>C +</i>
73 – 76.99	<i>C</i>
70 – 72.99	<i>C –</i>
67 – 69.99	<i>D +</i>
60 – 66.99	<i>D</i>
0 – 59.99	<i>E</i>

## Topics

### 1- Introduction

- Introduction to Industrial Organization: PRN Chapter 1.

- Review of Basic Microeconomic Theory:
  - Technology and Costs. PRN Chapter 4.1 (excluding 4.1.3).
  - Competition versus Monopoly. PRN Chapter 2 (excluding 2.3.2, 2.3.3, 2.3.4 and 2.4).

## **2- Market Structure and Market Power**

- Concentration Measures and Evidence. PRN Chapter 3.
- Cost and Non-Cost Determinants of Market Structure. PRN Chapter 4 (excluding 4.1.1 and 4.1.2).

## **3- Monopoly Pricing Schemes**

- Durable Goods. PRN Chapters 2.3.3, 2.3.4, and 2.4.
- Third degree price discrimination. PRN Chapter 5.
- First degree price discrimination. PRN Chapter 6.
- Second degree price discrimination. PRN Chapter 6.
- Tie-in sales and bundling. PRN Chapter 8.

## **4- Product Variety and Quality Under Monopoly**

- Product Variety. PRN Chapters 7.1-7.4.
- Product Quality. PRN Chapters 7.5-7.6.

## **5- Basic Oligopoly Models**

- Game Theory: Static Games. PRN Chapters 9.1-9.3 or Gibbons Chapter 1 (pp 1-12).
- Static Competition:
  - Homogeneous Goods: PRN Chapters 9.4-9.5 and 10.1. or Gibbons Chapter 1.2.A.
  - Differentiated Goods: PRN 10.2-10.3, or Gibbons Chapter 1.2.B.

- Game Theory: Dynamic Games. PRN Chapter 11, or Gibbons Chapters 2.1, 2.2 and 2.3 (skip the complex applications).

## **6- Anticompetitive Behavior and Antitrust Policy**

- Entry Deterrence. PRN Chapters 12 and 13.
- Predatory Conduct. PRN Chapter 13.
- Price Fixing, Repeated Interaction, and Antitrust Policy. PRN Chapter 14 and Appendix to Chapter 1.

## **7- Contractual Relationships Between Firms**

- Horizontal Mergers. PRN Chapter 15.
- Vertical and Conglomerate Mergers. PRN Chapter 16.
- Vertical Price Restraints. PRN Chapter 17.
- Non-Price Vertical Restraints. PRN Chapter 18.

## **8- Non-Price Competition**

- Advertising. PRN Chapter 19.
- Research and Development, Patents, and Patent Policy. PRN Chapters 20 and 21.

## **9- Network Markets**

- PRN Chapter 22.

## **10- Auction Markets**

- PRN Chapter 23.

## **11- Asymmetric Information**

- Only if time permits.