

ECO 4934 (0934) Industrial Organization

Syllabus

University of Florida

Spring 2018

Instructor: Germán Bet

Email: cgerman.bet@ufl.edu

Course location: Room MAT 14

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

Office: 321 Matherly Hall

Office Hours: Mondays & Wednesdays 4PM-5PM

TA: Zachary Jones

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Office Hours: TBD

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). 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*.

Evaluation and Grading:

Evaluation will be based on problem sets (15% of the total grade), class participation (10%), and three midterm examinations (25% each). The first two midterm examinations will be held in class on Wednesday February 14, and Wednesday March 21. The last exam will be held on Monday, April 30 from 7:30am to 9:30am (i.e., day set by the Office of the Registrar for the final examination).

The course is divided into three parts, each followed by an exam that focuses mostly on the current part. Exams will feature a combination of problem solving, multiple choice, 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 in class 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. Grading based on effort means that you will only receive full credit if you demonstrate that you have taken the problem set seriously (i.e., you have spent time reviewing the class material and applied what you have learned in class to the solution of the problem).

Class participation accounts for 10% of the total grade. Class participation means not only class attendance, but also asking and answering questions in class. You will only get partial credit if you attend classes but you do not actively participate in class. I will keep track of who comes to class and participates in class starting the second week of classes (once the roster is fixed). Your class participation grade will be determined as follows:

- Your class participation grade will be zero if you miss more than 25% of the lectures (7 classes or more) for an unexcused reason. In this case, your score will be zero independently of whether you have actively participated in class or not during the lectures you have attended.
- If you attend classes regularly (i.e., you attend at least 75% of the lectures or skip less than 7 classes) but you do not actively participate in class (asking and answering questions), your class participation grade will be 70.

- If you attend classes regularly (i.e., you attend at least 75% of the lectures or skip less than 7 classes) and you actively participate in class (asking and answering questions), your class participation grade will be between 70 and 100, depending on how much you participated (I will use a curve to determine your final score).

If you miss a class for a valid and excused reason (see [UF policy](#) on this) and you do not want your class absence to count against your class participation grade, you need to provide valid documentation (within a week of your absence) justifying your absence. This documentation must include contact information for verification purposes. Providing false documentation or creating an excuse to be excused from class that cannot be verified constitutes cheating under the University guidelines. UF's policy on academic honesty will be strongly enforced.

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>

Academic Honesty

You are expected to comply with the University of Florida's rules for academic honesty (which can be found [here](#)). Failure to comply with this commitment will result in disciplinary action.

Students with Disabilities

Students with disabilities requesting classroom accommodation must first register with the Disability Resource Center. The Disability Resource Center will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

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 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, 4.1.2, and 4.6).

3- Monopoly Pricing Schemes

- Durable Goods. PRN Chapters 2.3.3, and 2.3.4.
- Third degree price discrimination. PRN Chapter 5 (excluding 5.6).
- First degree price discrimination. PRN Chapter 6 (excluding 6.1.2, and 6.4).
- Second degree price discrimination. PRN Chapter 6(excluding 6.1.2, and 6.4).
- Tie-in sales and bundling. PRN Chapter 8 (excluding 8.1.1, 8.1.2, 8.1.3, and 8.5).

4- Product Variety and Quality Under Monopoly

- Product Variety. PRN Chapters 7.1, 7.2 and 7.3.
- Product Quality. PRN Chapter 7.5.1.

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 (excluding 11.5), 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 (excluding 12.2.2, 12.3.1, and 12.5), 13.2.2 and 13.3.2.
- Predatory Conduct. PRN Chapter 13 (excluding 13.3.1, 13.3.3, and 13.6).
- Price Fixing, Repeated Interaction, and Antitrust Policy. PRN Chapter 14 (excluding 14.4.1 and 14.5) and Appendix to Chapter 1.

7- Contractual Relationships Between Firms

- Horizontal Mergers. PRN Chapter 15 (excluding 15.5.2, and 15.7).
- Vertical and Conglomerate Mergers. PRN Chapter 16 (excluding 16.3, 16.4, 16.6, and 16.7).
- Vertical Price Restraints. PRN Chapter 17 (excluding 17.4.1, 17.4.2, 17.4.3, 17.5, and 17.7).
- Non-Price Vertical Restraints. PRN Chapter 18 (excluding 18.4, 18.6, and 18.7).

8- Non-Price Competition

- Advertising. PRN Chapter 19 (excluding 19.5 and 19.6).
- Innovation (Research and Development). PRN Chapter 20 (excluding 20.3, 20.5, and 20.6).

9- Network Markets, Auction Markets, and Asymmetric Information (Only if time permits)

- PRN Chapters 22 and 23.