

ECP 3403 (3036)
Industrial Organization
Syllabus

University of Florida

Spring 2021

Instructor: Germán Bet

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Course location: Room MAT 4 & Online

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

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Virtual Office Hours (Zoom): Fridays 1PM-4PM; and by appointment

TA: Iliia Kapelevich

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Virtual Office Hours (Zoom): TBD

Course Description and Goals:

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, predatory conduct, mergers, collusion, and different modes of non-price competition (such as advertising or Research and Development). 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) or Managerial Economics (ECP 3703), 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 read-

ings on legal cases you can check John Kwoka and Lawrence White, *The Antitrust Revolution*.

Lectures and Course Communication

We will have face-to-face instructional sessions and asynchronous online sessions for which prerecorded lectures will be posted. You can find the schedule for face-to-face classes and asynchronous online classes in the weekly class schedule (at the end of the syllabus). I will share the links to the videos on Canvas, following the class schedule. You are strongly encouraged to watch prerecorded lectures in a timely fashion (i.e., within 1 day of each being posted). As in all courses, unauthorized sharing of recorded materials is prohibited. Exams will take place in class during our assigned class time: Mondays and Wednesdays during 7th and 8th periods.

Announcements concerning the class will typically be made in class, lecture videos, and through Canvas. You are responsible for all information made available through all of these avenues of communication.

Evaluation and Grading:

Evaluation will be based on problem sets (15% of the total grade), and two midterm examinations. The exams will be closed book/closed note exams administered online in Canvas using the Honor Lock proctoring service. All exams will be taken synchronously (i.e., at the same time). The first midterm examination (40% of the total grade) will take place on Wednesday February 24 at 1:55pm (Eastern Standard Time zone). The last exam (45% of the total grade) will be held the last day of class, on Wednesday April 21 at 1:55pm (Eastern Standard Time zone).

The course is divided into two parts, each followed by an exam that focuses mostly on the current part. Make-up exams will be administered only on those circumstances in which you cannot take an exam for a valid reason, such as illness or emergency (see [UF policy](#) on this). **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.** Please also note that providing false documentation or creating an excuse to be excused from class that cannot be verified constitutes cheating under the University guidelines. UF policy on academic honesty will be strongly enforced.

There will be at least 6 problem sets. Due dates for the assignments will be an-

nounced in class (all times announced in class will be according to Eastern Standard Time). **All assignments are due on Canvas before the deadline on the due date. Late submissions will not be accepted and will receive zero credit.** As a general advice, make sure to submit your assignment at least several hours before the due date/time. In addition, after submitting your problem set through Canvas, make sure your submission is correct and contains all pages. If necessary, you will be able to replace your initial submission with an updated version before the deadline. You are responsible for verifying that any online assignment submission has properly been submitted through Canvas. Your lowest problem set grade will be dropped.

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>

Information on current UF grading policies for assigning grade points is available [here](#).

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. UF policy on academic honesty will be strongly enforced.

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.

Disclaimer for Recorded Lectures

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the “chat” feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Please note that our face-to-face classes may be recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate orally are agreeing to have their voices recorded.

Computer Access

The University requires access to and on-going use of a computer. This should not be a tablet device or smartphone, but an actual desktop or laptop computer. To succeed in this course, you will also need a stable internet connection and appropriate space to take online exams using the Honor Lock proctoring service. Minimum equipment specifications are available at: <https://it.ufl.edu/policies/student-computing-requirements/>

COVID-19 Related Practices

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. In response to COVID-19, the following policies and requirements are in place to maintain your learning environment and to enhance the safety of our in-classroom interactions.

- You are required to wear approved face coverings at all times during class and within buildings. Following and enforcing these policies and requirements are all of our responsibility. Failure to do so will lead to a report to the Office of Student Conduct and Conflict Resolution.
- This course has been assigned a physical classroom with enough capacity to maintain physical distancing (6 feet between individuals) requirements. Please utilize designated seats and maintain appropriate spacing between students. Please do not move desks or stations.
- Sanitizing supplies are available in the classroom if you wish to wipe down your desks prior to sitting down and at the end of the class.
- Follow your instructor's guidance on how to enter and exit the classroom. Practice physical distancing to the extent possible when entering and exiting the classroom.
- If you are experiencing COVID-19 symptoms (Click [here](#) for guidance from the CDC on symptoms of coronavirus), please use the UF Health screening system and follow the instructions on whether you are able to attend class. Click [here](#) for UF Health guidance on what to do if you have been exposed to or are experiencing Covid-19 symptoms.
 - Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work. Find more information in the [university attendance policies](#).

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals.

Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students [here](#).

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- 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).

5- 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.

6- Mergers

- 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).

7- Non-Price Competition (only if time permits)

- 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).

Table 1: Tentative Schedule

Week	Date	Topic	Delivery
1	11-Jan	Syllabus & Intro to IO	Online (asynchronous)
1	13-Jan	Math Review	Face-to-Face
2	18-Jan	No class (Holiday)	
2	20-Jan	Foundations: Demand and Costs	Face-to-Face
3	25-Jan	Foundations: Perfect Competition and Monopoly	Online (asynchronous)
3	27-Jan	Market Structure and Market Power	Face-to-Face
4	1-Feb	Costs and Non-costs Determinants of Market Structure	Online (asynchronous)
4	3-Feb	Price Discrimination	Face-to-Face
5	8-Feb	Price Discrimination (cont'd)	Online (asynchronous)
5	10-Feb	Bundling	Face-to-Face
6	15-Feb	Durable Goods	Online (asynchronous)
6	17-Feb	Intro to Game Theory	Face-to-Face
7	22-Feb	Exam Review	Online (asynchronous)
7	24-Feb	Midterm I	Face-to-Face
8	1-Mar	Game Theory (cont'd)	Online (asynchronous)
8	3-Mar	Oligopoly Models	Face-to-Face
9	8-Mar	Oligopoly Models (cont'd)	Online (asynchronous)
9	10-Mar	Dynamic Games	Face-to-Face
10	15-Mar	Entry Deterrence	Online (asynchronous)
10	17-Mar	Entry Deterrence (cont'd)	Face-to-Face
11	22-Mar	Entry Deterrence (cont'd)	Online (asynchronous)
11	24-Mar	No class (Recharge Day)	
12	29-Mar	Predatory Conduct	Online (asynchronous)
12	31-Mar	Predatory Conduct (cont'd)	Face-to-Face
13	5-Apr	Mergers	Online (asynchronous)
13	7-Apr	Mergers (cont'd)	Face-to-Face
14	12-Apr	Collusion	Online (asynchronous)
14	14-Apr	Advertising	Face-to-Face
15	19-Apr	Exam Review	Face-to-Face
15	21-Apr	Midterm II	Face-to-Face