

ECP 3403 (3034)
Industrial Organization
Syllabus

University of Florida

Spring 2021

Instructor: Germán Bet

Email: cgerman.bet@ufl.edu

Course time: Mondays & Wednesdays 9:35AM-11:30AM (Periods 3 & 4)

Office: 340 Matherly Hall

Phone: (352) 392-1328

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

TA: Iliia Kapelevich

Email: ikapelevich@ufl.edu

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

Lectures and Course Communication

The course will be held asynchronously online. The lectures will be recorded and organized into videos. I will share the links to the videos on Canvas. The lectures will be posted to Canvas on Mondays and Wednesdays, following the course schedule. You are strongly encouraged to watch each lecture in a timely fashion (i.e., within 1 day of each being posted). As in all courses, unauthorized sharing of recorded materials is prohibited.

While this course is delivered online, there will be some synchronous activities, such as exams. Exams will take place during our assigned class time: Mondays and Wednesdays during 3rd and 4th periods. You are expected to be available during those times. In addition, this course is paired with another section that will be partially taught face-to-face (and partially held asynchronously online). You are welcome to virtually attend the lectures in which I will be teaching face-to-face synchronously (via Zoom). A schedule of the lectures in which I will be teaching face-to-face and that you can virtually attend synchronously can be found in the course website (as well as the link to join these sessions).

Announcements concerning the class will typically be made in lecture videos and through Canvas. You are responsible for all information made available through both 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 9:35am (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 9:35am (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 announced 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.

University 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.

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/>

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