

ECONOMICS 445
INDUSTRIAL ORGANIZATION
SPRING 2020

Instructor:	Email:	lmaini@email.unc.edu	
Luca Maini	Office:	Gardner 301	Online locations (starting 3/24):
	Office Hours:	Tu. 11:00-12:00pm	https://unc.zoom.us/j/824034186
		Fr. 12:00-2:00pm	https://unc.zoom.us/j/406783957
Class time	TR 8:00 - 9:15am	Dey Hall 206 (Section 001)	https://unc.zoom.us/j/405749718
& location:	TR 9:30 - 10:45am	Dey Hall 206 (Section 002)	https://unc.zoom.us/j/617059222
Midterm	Midterm 1: Feb. 18th		
Exams	Midterm 2: Apr. 2nd		
Final Exam	Tuesday, April 28th, 8:00am (Section 001)		
	Friday, May 1st, 8:00m (Section 002)		

Overview

Prerequisites: ECON 400 and 410; a grade of C or better in ECON 400 and 410 is required.

In this class we will study the causes and consequences of firms' strategic behavior, focusing on situations in which the assumptions behind perfect competition do not hold. Our main analytical tools will be microeconomic theory and game theory, and we will use some basic econometrics as well. We will supplement our theoretical work with empirical evidence from academic research and the popular press.

The topics we will study include: pricing, product design, imperfect competition, collusion and cartels, firm-to-firm supply relationships, and mergers. Within each topic we will consider the impact of firms' actions on consumer welfare. We will also consider the motivation for and impact of US antitrust law on these settings.

Economics is more a way of thinking rather than a collection of facts, and industrial organization (IO) is no exception. Our main objective is to develop the ability to use economic models to understand a broad range of problems. These models, when constructed well, can be both simple and powerful. Your ability to construct, analyze, and interpret models is best developed through practice, and our class meetings, assignments, and exams will focus on providing this practice.

I will require you to use basic calculus during this course. If you remember what a derivative is and how to obtain one, you will not have any problems with the math that we use here.

Readings and videos

There is no required textbook for this class. Your notes from class together with lecture slides will be sufficient to keep up with the course. However, if you would like to have an external reference, the suggested textbook is Introduction to Industrial Organization by Luis Cabral (2nd edition), which was the required textbook in previous years. It is available at the UNC bookstore.

We will often supplement class notes with readings collected from the popular press (newspapers, magazines, etc.). When assigned, these readings are **mandatory**. I will occasionally assign short online quizzes (to be completed before class) that will test your understanding of these readings.

I also encourage you to keep up with current economics-related events. Good popular press sources include the Economist, the New York Times, the Washington Post, and the Wall Street Journal. There are also many online news sources and podcasts that are worth checking out: Planet Money, Freakonomics, FiveThirtyEight, and many more. While not all of these resources focus on IO, they are likely to provide interesting opportunities to think about the economic forces common to IO and other microeconomics areas.

Occasionally I will also post instructional videos covering certain models and topics to Sakai. These videos will be posted at least 24 hours in advance of class. I may not always send you a notice that a new video has become available, so I encourage you to check Sakai in advance of class. When posted, these videos are **mandatory** viewing before class.

Grading

Your grade will be based on three exams and homework assignments. The course grade is divided as follows:

Midterm 1	20%
Midterm 2	20%
Final Exam	40%
Homework + Quizzes	15%
Class participation	5%

Grades will be curved so that final course grades will have a similar distribution to previous versions of this class.

Sakai

I will use Sakai to distribute notes, readings, homework assignments, etc. I will also use Sakai to administer exams that cannot be administered in person. Please verify that you can log on to Sakai and access the information for this class.

All course grades will be stored and displayed on the Sakai course page. It is your responsibility to insure that the grades on this course page are accurate.

Exams

There will be two midterm exams and a final exam. If you will miss an exam due to a university-approved absence, you must provide documentation for this approval as soon you are aware of the conflict and are able to provide the documentation. Valid reasons for missing an exam include: a documented personal illness, a serious illness or emergency within your immediate family, or an authorized university activity. Unexcused absences will result in a grade of zero.

Re-grade policy: For simple scoring or adding-up mistakes, return the exam to me with a brief explanation. For more substantial cases where you think you deserve credit for an answer, write a short paragraph explaining why you believe you deserve a higher score, and then return the exam to me. When you submit an exam for a re-grade, the whole exam will be re-scored and your grade may go up or down. All re-grade requests must be provided within one week of receiving your score.

Homework Assignments

I will post assignments to Sakai at least one week before they are due. You are welcome to work with other students on the assignments, but everyone must turn in his/her own version of the homework. Your assignment must clearly reflect your own work and cannot contain verbatim passages from your classmates' assignments.

Solutions will be posted at the same time the assignment is due. As a consequence, **no late work will be accepted**. However, you will be allowed to drop your lowest problem set score (so you have the option not to turn in one of the problem sets).

50% of your problem set score will be based on whether you turn in a completed problem set (regardless of whether your answers are right or wrong). The remaining 50% will be based on the score of one problem (chosen at random).

Problem sets can be turned in electronically using the Sakai "Assignment" tab.

Policies and expectations

Engagement in the course (demonstrated through attention, comments, questions, active listening, and participation in in-class activities) is expected and a part of the learning experience. While I understand that students may not be able to attend every class, students must likewise understand that an absence from class may result in missed information and, consequently, a lower grade. I cannot replicate our hour-and-fifteen-minute class in my office hours. It will be your responsibility to obtain the missed information. Attendance will not be taken, but engagement and active participation will have a positive impact on your final grade through my perception of your commitment to learn. Notice that if you rarely show up to class your participation may be deemed null or low by virtue of you not being there to participate in the first place.

During remote lectures I expect students to have their microphones muted unless they are asking a question or otherwise involved in the conversation. If you would like to ask a question, you can use the "raise your hand" function in Zoom, or send me a private message on the chat. I will then give you permission to speak. If you can, I would suggest you use a webcam during remote meetings. This can help substitute (in part) for in-person interactions. Fun Zoom virtual backgrounds are actively encouraged and may result in bonus points at the discretion of the instructor. Online lectures will be recorded and made available afterwards as video/audio recordings.

Laptops, tablets, phones, or similar devices are not prohibited during the lecture, except when in-class activities require so. However, I strongly discourage you from using them. You should be aware that using these devices may have negative effects on your peers and interfere with your own learning.

You are expected to be honest and honorable in your fulfillment of course conduct, course assignments, and course exams. You are encouraged to work together with other students on the homework. However, each student must write up his or her own version of the homework assignment. Exams are taken individually, without any help from other students or unapproved resources. Adherence to the honor code is required. During class and office hours you shall refer

to your fellow students and to your instructor with respect and civility—hopefully this applies throughout your life in general. No discriminatory language or behavior will be allowed in the class.

Course Outline

The number in parentheses is the approximate (i.e. possibly subject to change) number of class meetings we will spend on a topic. For those of you who are using the suggested textbook I have included the relevant chapter numbers for each topic.

1. Introduction (1 lecture)
2. Review of perfect competition and monopoly (~2 lectures)
 - *Readings: Cabral 2, 3, 4, 5*
3. Price discrimination (~5 lectures):
 - *Readings: Cabral 6*
4. Game Theory (~2 lectures):
 - *Readings: Cabral 7*

Midterm 1 approximately here

5. Competition with homogeneous products (~5 lectures):
 - *Readings: Cabral 8*
6. Competition with differentiated products (~3 lectures):
 - *Readings: Cabral 14*
7. Market structure and outcomes (~1 lecture):
 - *Readings: Cabral 10*

Midterm 2 approximately here

8. Dynamic games and collusion (~2 lectures):
 - *Readings: Cabral 9*
9. Mergers and vertical relationships (~4 lectures):
 - *Readings: Cabral 11, 12, 13*
10. Topics (if time allows)

Final Exam