

**Economics 445
Industrial Organization
Fall 2020**

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Course mode: Face-to-face/Hybrid. We will hold in-person meetings plus provide Zoom access. All exams are in-person.

In-person location & time: Graham Memorial 39. Tuesdays and Thursdays, 1:15 - 2:30

Midterm Exams: Midterm 1: Tuesday September 15
Midterm 2: Tuesday October 20

Final Exam: TBD

Office Hours: Mondays 2:00-3:00 and Wednesdays 9:30-10:30, both on Zoom.
You can also schedule a meeting.

Mask use:

Before entering the classroom, all students must put on a mask covering their nose and mouth. Masks must remain in place until the after the student leaves the classroom. There are no exceptions to this policy; students who are unable to wear a mask should contact Accessibility Resources and Service. If you do not comply with the mask policy, I will drop you from the course and report you to the Office of Student Conduct.

Course goals and approach

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. 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. While some historical information is important to IO, our main objective is to develop your 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.

Readings

There is no required textbook for this course. I strongly recommend that you acquire a relevant book as a reference and source of practice problems. Three good options are:

- a) *Introduction to Industrial Organization* (2nd edition) by Luis Cabral.
- b) *Industrial Organization: Contemporary Theory and Empirical Applications* (5th, 4th, or 3rd ed.) by Pepall, Richards, and Norman.
- c) Any Intermediate Microeconomic Theory (Econ 410) textbook used at UNC or a comparable university in the last 10 years. This option will not include as much of our course's content as (a) or (b) but the included topics will generally have excellent discussion and examples.

In the course topics outline below, I indicate which sections of the Cabral text correspond to our in-class discussion. If you choose to acquire a book other than Cabral, it will be your responsibility to locate relevant readings.

We will supplement our work on theory of IO with readings and other materials (podcasts, videos). This material will reinforce the relevance of the (sometimes abstract) models we will cover in class.

I encourage you to stay abreast of current economics-related events. Good popular press sources include the New York Times, the Wall Street Journal, and the Economist. There are also many online news sources and podcasts worth checking out.

I encourage you to read articles from across the spectrum of microeconomics. Even if articles do not explicitly mention Industrial Organization topics, they are likely to provide interesting opportunities to think about the economic forces common to IO and other microeconomics areas.

Grading

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

Exam 1	20%
Exam 2	20%
Final	35%
Homework assignments	20%
Class participation	5%

Grades will be curved so that final course grades have a similar distribution to previous versions of this class. My exams are generally challenging and have low raw or percentage scores, but the letter grade distribution is in line with usual Economics department practices.

You can think of the class participation grade as a score from 0 to 5, covering outcomes ranging from infrequent attendance and minimal participation (0) to frequent and constructive participation (5). Zoom participation counts! I will provide periodic feedback on class participation.

Sakai

I will use Sakai to host Zoom recordings of class meetings, distribute notes, readings, homework assignments, etc. 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 ensure that the grades on this course page are accurate.

Exams

There will be two midterm exams and a final exam. The exams will be held in person while our course is operating under Face-to-Face instructional mode.

An unexcused absence from an exam will result in a grade of zero for that 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. Personal travel, job interviews, and club activities are not approved absences.

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 that you deserve credit for an answer, write one or two paragraphs explaining why you think your answer is correct, and give your exam and explanation to me within two weeks of when I return the graded exams.

Homework assignments

I will post assignments to Sakai one week before they are due. You are welcome to work with other students on the assignments, but everyone must turn in his or her own version of the homework. Your assignment must clearly reflect your own work and cannot contain verbatim passages from your classmates' assignments. Late work generally can be turned in within a week of the due date for half credit.

You must turn in your work for each assignment as a single PDF file submitted to the Sakai Dropbox. Please title your assignment "HW{number}_{lastname}_{firstname}.pdf". For example, I would submit my answers for the 3rd homework as "HW3_mcmanus_brian.pdf."

In grading each assignment, the teaching assistant will select a few questions at random for grading. The same questions will be graded on all students' assignments. I will provide answers to all questions about one week after the assignment is due.

Classroom etiquette

I expect you to arrive on time and prepared for the day's class. My goal is to maintain a classroom environment that provides a good learning environment for everyone. (I usually ban laptops and phones, but this is inappropriate for the current semester.) If you use a laptop during class, you should restrict your usage to class-related activities. If you view content unrelated to class, you will distract your neighbors in addition to taking your own focus away from our discussion.

Academic integrity

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. Each student is expected to maintain academic integrity and follow the UNC Honor System.

Course Outline

LC = Luis Cabral textbook.

PRN = Pepall Richards and Norman textbook. I will post excerpts to Sakai.

The number in parentheses is the approximate number of class meetings we will spend on a topic. The class lectures and slides are a guide to what topics are important within textbook sections. You are not responsible for material that appears in your textbook that we do not discuss in class.

0. Course introduction, objectives, policy perspective (1). Readings: LC 1.
1. Consumers and firms (1). LC 2, 3.
2. Competition and monopoly (2). LC 4.1, 4.2, 4.4, 5.3-5.5.
3. Monopoly product and pricing strategies (5).
 - a. Price discrimination. LC 6.1-6.3, 6.4
 - b. Bundling. LC 6.2.
4. Game theory: Assumptions and solution concepts (3). LC 7.1-7.3.

Midterm 1 approximately here.

5. Oligopoly with homogeneous goods (5)
 - a. Bertrand competition. LC 8.1.
 - b. Cournot competition. LC 8.2 and 8.3.
 - c. Stackelberg competition. Class notes and PRN 11.1-3.
6. Equilibrium market structure (1). Class notes and LC 10.
7. Oligopoly with differentiated products (1). Class notes and LC 14.1-2.

Midterm 2 approximately here.

8. Cartels and collusion (2). LC 9.
9. Horizontal mergers (2). LC 11.
10. Vertical relationships (3)
 - a. Mergers. LC 13.1.
 - b. Price and non-price restrictions. LC 13.2.