

**Economics 445  
Industrial Organization  
Spring 2016**

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Class location & time:      Section 1:      TuTh 8:00 - 9:15      Gardner 007  
   Section 2:      TuTh 9:30 - 10:45      Gardner 007

Midterm Exams:              Midterm 1:      Tuesday, February 11  
   Midterm 2:      Tuesday, March 29

Final Exam:                    Section 1:      Saturday April 30, 8:00 AM  
   Section 2:      Tuesday May 3, 8:00 AM

Office Hours:                    Mondays 9:30-11:30 and by appointment in Gardner 200C

**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.

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**

You are required to buy the text *Industrial Organization: Contemporary Theory and Empirical Applications* by Pepall, Richards, and Norman. You may purchase the 5<sup>th</sup> edition, which is available at the UNC bookstore, or you may buy the 3<sup>rd</sup> or 4<sup>th</sup> edition. I will discuss text readings in terms of the chapter and section headings as they appear in the 5<sup>th</sup> edition. If you buy an earlier edition, it is your

responsibility to locate readings in your textbook. While some section headings/numbering differ across editions, each edition contains all of the topics we will cover in this course.

I expect you to read ahead of our class discussions. I will make announcements in class or through email about the text sections you should be reading. If you are uncertain about what to read, please refer to the course outline in this syllabus.

We will supplement the textbook with readings collected from the popular press (newspapers, magazines, etc.). Our approach to these readings will be more casual than our treatment of the text. We will use the readings to reinforce the relevance of the (sometimes abstract) models we will encounter in class and in the text.

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 several stimulating economics-oriented blogs that are worth reading.

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 and your homework assignments. The course grade is divided as follows:

Exam 1	20%
Exam 2	20%
Final	40%
Homework assignments	20%

Grades will be curved so that final course grades have a similar distribution to previous versions of this class. Participating in class discussions can add up to 5% to your (curved) grade.

## **Sakai**

I will use Sakai to 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 insure that the grades on this course page are accurate.

## **Exams**

There will be two midterm exams and a final exam. The exams are open-note, open-book. We have this policy to emphasize that your main task is to develop strong intuition about economic incentives and activity rather than memorizing terms or formulas.

There will be no make-up exams. If you want to avoid a penalty for missing an exam, you must present documentation of an excuse that meets university standards for missing a final exam. Valid excuses for missing an exam include: a documented personal illness or a serious illness or emergency within your immediate family. Excused absences will result in a re-weighting of your other grades. 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 that you deserve credit for an answer, write a single paragraph explaining why you think your answer is correct, and give it to me (along with your exam). You must provide all regrade requests 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 can be turned in within a week of the due date for half credit. I will provide brief answers to the assignments one week after they are due.

### **Classroom etiquette**

My goal is to maintain a classroom environment that provides a good learning environment for everyone. To minimize distractions, you must turn off all phones, laptops, and other electronic devices during class. I expect you to arrive on time and prepared for the day's class.

### **Teaching assistants**

We will have a teaching assistant for the class. He or she will assist me in grading your work and hold occasional office hours. These office hours generally will be held during the weeks of your exams. A TA has not yet been assigned to this class, but once this occurs I will post his or her contact information to Sakai.

### **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

PRN = Pepall, Richards, and Norman. 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 in each PRN chapter. You are not responsible for PRN sections we do not discuss in class.

0. Course introduction, objectives, historical perspective (1). Readings: PRN 1.
1. Review of perfect competition and monopoly (2). PRN 2.
2. Production and costs (1). PRN 4.
3. Monopoly product and pricing strategies (5).
  - a. Price discrimination. PRN 5-6.
  - b. Bundling. PRN 8.
4. Game theory: Assumptions and solution concepts (3). PRN 9.1-9.3.

*Midterm 1 approximately here.*

5. Oligopoly markets (5).
  - a. Cournot competition. PRN 9.4-9.6
  - b. Bertrand competition. PRN 10.1-10.2.
  - c. Spatial markets. PRN 10.3.
  - d. Describing market structure. PRN 3
6. Oligopoly markets, extensions (3)
  - a. Stackelberg competition. PRN 11.1
  - b. Dynamic interaction. PRN 11.2-11.3
  - c. Entry deterrence. PRN 12.
7. Cartels and collusion (3). PRN 14.

*Midterm 2 approximately here.*

8. Horizontal mergers (2). PRN 15.
9. Vertical relationships (4)
  - a. Mergers. PRN 16.1-16.5
  - b. Price restrictions. PRN 17.
  - c. Non-price restrictions PRN 18

*Final exam*