

SYLLABUS
SPRING 2010

ECON 1460

INDUSTRIAL ORGANIZATION
Brown University

Instructor

Christian Roessler
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Consultation: WF 4:00-5:00 pm

Lecture Time / Venue

MWF 10:00-10:50 am / Salomon Center 003

Teaching Assistant

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Conference Time / Venue

W 12:00-12:50 pm / Wilson Hall 105
W 7:00-7:50 pm / Wilson Hall 205

About the Course

Industrial organization is the study of firm behavior and market outcomes under different forms of competition, with emphasis on oligopoly, where firms interact strategically. We apply optimization and game theoretic reasoning in order to explain pricing schemes, branding, merger activity and other features we observe in actual markets. From a social point of view, we are interested in when and why competition leads to inefficiencies, and how regulation can address them.

The first half of the course looks at the workhorse models of market structure: first the “extreme” settings of perfect competition and monopoly, then the intermediate oligopoly models (Bertrand and Cournot). The second half considers how firms attempt to change the industry structure through product differentiation (branding, advertising, innovation) and consolidation (entry deterrence, mergers, tacit collusion).

Topics

1. Monopoly, Efficiency and Regulation (3 weeks)
2. Competition (3 weeks)
3. Branding and Innovation (3 weeks)
4. Mergers, Collusion and Vertical Relations (2 weeks)
5. Industry Performance and Entry (2 weeks)

Prerequisites

ECON 1110 (Intermediate Microeconomics) or ECON 1130 (Intermediate Microeconomics, Mathematical) and some calculus (single-variable optimization).

Policies

Attendance While attendance is not specifically required, either in lecture or conferences, you will only be able to earn participation points in a given week if you go to one of the conferences and show that you have done the assigned exercises.

The purpose of conferences is to discuss weekly exercises and address questions you may have about lecture material. The role of the TA is not to work through exercises and directly answer every question. Rather, he will let students present their solutions and try to answer questions, and might only help out when needed.

Shopping You can enroll in the course at any point during the shopping period, but be aware that, from second week, you lose participation points if you do not attend conference.

Cell Phones They must either be switched off during lecture and conferences, or put on speaker when ringing. Do not let your phone ring in class without answering – it's impolite to the caller and leaves us all with a terrible impression of you.

Grading Assessment includes: in-class midterm and final exam (30% each), problem sets (30%) and weekly exercises (10%).

Three exercises will be assigned from the textbook every week, except in the first, fifth and sixth week. Exercises are announced one week in advance on the course website. They can be attempted in groups (if you like) and do not have to be handed in. However, you will be asked to indicate at the beginning of conference whether you solved the exercises fully, partially or not at all. If you sign in, then you need to attend conference and may be asked to present your full or partial solution.

Each set of weekly exercises counts for 1% of your final grade. (If you indicate every time that you have fully solved every exercise, you will get 10 points for participation in the end.) Intentional dishonesty, i.e. inability to produce your results, will trigger an automatic zero in participation for the entire course (you can get up to 90% after that).

In addition, three problem sets – each containing five exercises from the textbook – will be posted on the course website two weeks in advance of due date. Problem sets are to be done individually and handed in to the TA, either by e-mail or in hard copy, by noon on 2/17, 3/17 and 4/21. Every problem set counts for 10% of the final grade; each exercise is marked by the TA as “fully solved” (2 points), “partially solved” (1 point) or “not solved” (0 points). Late submissions incur a loss of 1 point (i.e. 1% of the final grade) per day, up to a maximum of 10 points.

Readings

Textbook Cabral, L. (2000). *Introduction to Industrial Organization*. MIT Press. ISBN: 978-0262032865.

Reference Tirole, J. (1988). *The Theory of Industrial Organization*. MIT Press. ISBN: 978-0262200714. (on library reserve)

There are several other well-regarded books at a similar level to Cabral's, e.g. Carlton and Perloff, *Modern Industrial Organization*, and Church and Ware, *Industrial Organization: A Strategic Approach* (out of print, but downloadable for free at: <http://homepages.ucalgary.ca/~jrchurch/page4/page5/files/PostedIOSA.pdf>).

Tirole is more detailed and rigorous, the standard book for advanced undergraduate or graduate courses. Lectures may occasionally go beyond the (non-) technical level of Cabral, and then you might wish to consult Tirole.

If you need a quick math refresher with solved examples, Schaum's *Introduction to Mathematical Economics* by Dowling is good value for money.

Lecture and Readings Schedule

Week 1			
	Wed 1/27	Introduction to the Course	1.1-1.3, 2.1-2.2
	Fri 1/29	1.1 Firms and Profit Maximization	2.3-2.4, 3.1-3.3
Week 2	Mon 2/1	1.2 Monopoly and Efficiency	5.1
	Wed 2/3	1.3 Antitrust	5.2-5.3
	Fri 2/5	(1.3 cont'd)	
Week 3	Mon 2/8	(1.3 cont'd)	
	Wed 2/10	1.5 Price Discrimination	10.1-10.2
	Fri 2/12	(1.5 cont'd)	10.3-10.5
Week 4	Mon 2/15	2.1 Perfect Competition	6.1-6.3
	Wed 2/17	2.2 Monopolistic Competition	6.4-6.5
	Fri 2/19	2.3 Modeling Strategic Behavior	4.1
Week 5	Mon 2/22	Long weekend (no class)	
	Wed 2/24	(2.3 cont'd)	
	Fri 2/26	2.4 Oligopoly I: Bertrand	7.1
Week 6	Mon 3/1	2.5 Oligopoly II: Cournot	7.2-7.4
	Wed 3/3	(2.5 cont'd)	7.5
	Fri 3/5	Midterm Exam	
Week 7	Mon 3/8	3.1 Product Differentiation	12.1, 12.4
	Wed 3/10	(3.1 cont'd)	12.2
	Fri 3/12	(3.1 cont'd)	12.3
Week 8	Mon 3/15	(3.1 cont'd)	
	Wed 3/17	3.2 Advertising	13.1-13.3

	<i>Fri 3/19</i>	3.3 Standard-Setting	17.1-17.2
Week 9	<i>Mon 3/22</i>	(3.3 cont'd)	17.3-17.5
	<i>Wed 3/24</i>	3.4 R & D	16.1-16.3
	<i>Fri 3/26</i>	(3.4 cont'd)	
Spring Break			
Week 10	<i>Mon 4/5</i>	5.1 M & A	15.3
	<i>Wed 4/7</i>	(5.1 cont'd)	
	<i>Fri 4/9</i>	5.2 Repeated Interaction	4.3, 8.1
Week 11	<i>Mon 4/12</i>	5.3 Stability of Collusion	8.2-8.4
	<i>Wed 4/14</i>	5.4 Retailing	11.1-11.4
	<i>Fri 4/16</i>	5.5 Upstream Competition and Vertical Restraints	11.5-11.6
Week 12	<i>Mon 4/19</i>	4.1 Structure-Conduct-Performance Paradigm	9.1-9.3
	<i>Wed 4/21</i>	4.2 Entry	14.1-14.2
	<i>Fri 4/23</i>	(4.2 cont'd)	14.3
Week 13	<i>Mon 4/26</i>	4.3 Sequential Games	4.2
	<i>Wed 4/28</i>	4.4 Incumbent and Entrant	15.1
	<i>Fri 4/30</i>	(4.4 cont'd)	15.2
Reading Period			