Economics 70361: Industrial Organization I

Fall 2013

Professor Jensen

Office: 921 Flanner

Office Hours: Monday and Wednesday, 2:00 – 3:30 pm and by appointment.

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Classes: Monday and Wednesday, 12:30 – 1:45 pm, 725 Flanner

Recommended Texts:

The Theory of Industrial Organization, Jean Tirole.

Oligopoly Pricing, Xavier Vives (for those very mathematically inclined).

International Handbook of Industrial Organization (Volumes 1, 2, and 3). The first two volumes are dated, but still have some value – especially in providing overviews.

Modern Industrial Organization, Dennis Carlton and Jeffrey Perloff (an undergraduate text with an extremely thorough coverage of IO, easy to read).

Industrial Market Structure and Economic Performance, Frederic M. Scherer and David Ross (an oldie but goodie).

Course Objectives:
This course has two objectives. One is to provide a survey of some of the theoretical models used to analyze the strategic interaction between firms in an industry in a variety of different environments, and to allow you to learn how to use these models in analyzing strategic firm behavior. The other is to survey recent theoretical and empirical advances in the literature on innovation by studying recently published papers, so as to develop an understanding of where future contributions might be made.

Grading: The course grade is based on:
(i) Problem sets 60%
(ii) Option of Paper or Presentation or Final 40%

On problem sets, I encourage you to work together. In fact, if you like, any combination of you can form a “team” and turn in one problem set with several names on it (in which case each participant receives the same grade on that problem set). From past experience I have found that
students are generally very good at minimizing the free rider problem without the need of any external assistance.

The other half will be your option:

a. Take a final exam (similar to the problems sets).

b. Present to the class an article on a topic in industrial organization of interest to you that has been published with the last 5 years and is approved by me. I am willing to allow a lot of latitude here so that you can find a paper that comes closest to your personal areas of interest.

c. Write a paper that develops a model and outlines how to analyze it to derive some results of interest in industrial organization. This would probably need to be about 10 to 15 pages (double-spaced). If you decide to do this, you will need to get the topic approved by me. Generally I would expect you to take this option only if you were thinking of a second-year paper or dissertation in this area. The model can be either theoretical or empirical.

NOTE: Because I only recently learned I would be teaching this class, I have already arranged five trips out of town on either Monday or Wednesday. We will need to make these up, hopefully in free time on Monday and Wednesday also.
Course Outline

0. Game Theory Topics and References (review)

A. Games in Strategic Form (Nash Equilibria)
   1. Tirole (11.1, 11.2)
   2. IHIO (5.2.1, 5.2.2, 5.2.3)
   3. Supplemental Readings:
      “Non-Cooperative Games,” John Nash, Annals of Mathematics (1951)
      Game Theory, Roger B. Myerson (excellent, but demanding)
      Game Theory, Drew Fudenberg and Jean Tirole (ditto)
      Game Theory, James W. Friedman
      Games and Information, Eric Rasmusen
      Thinking Strategically, by Avinash Dixit and Barry Nalebuff (entertaining to read)

B. Games in Extensive Form (Subgame Perfect Equilibria)
   1. Tirole (11.3)
   2. IHIO (5.3.1, 5.3.2)
   3. Supplemental Readings:
      Texts by Myerson, Fudenberg and Tirole, Friedman, and Rasmusen

C. Games with Incomplete Information (Bayesian and Perfect Bayesian Equilibria)
   1. Tirole (11.4, 11.5)
   2. IHIO (5.4.1, 5.4.2, 5.5.1, 5.5.2)
   3. Supplemental Readings:
      “Games with Incomplete Information Played by Bayesian Players, I-III,” John Harsanyi, Management Science (1967-8)
      Texts by Myerson, Friedman, Fudenberg and Tirole, and Rasmusen

I. Classic Models of Imperfect Competition

A. Price (Bertrand) Competition
   1. Tirole (5.1, 5.2, 5.3)
   2. IHIO (6.2.2)
   3. Vives (5.1, 5.2)

B. Quantity (Cournot) Competition
   1. Tirole (5.4)
   2. IHIO (6.2.1)
   3. Vives (4.1, 4.2)

II. Product Differentiation: Price Competition and Non-Price Competition

A. Monopolistic Competition
   1. Tirole (7.2)
   2. IHIO (4.3, 12.2)

B. Advertising and Informational Product Differentiation
1. Tirole (7.3)
2. Supplemental Readings:
   *The Economics of Advertising*, Schmalensee

C. Vertical Product Differentiation
1. Tirole (7.5)
2. IHIO (12.6)
3. Supplemental Reading:

D. Symmetric Monopolistic Competition
1. Tirole (7.5)

III. Competition with Asymmetric Information, Reputation, and Strategic Behavior
A. Sharing Cost Information
1. Tirole (9.1)
2. Supplemental Readings:

B. Demand Uncertainty and Market Leadership
C. Supplemental Reading: Vives (8)

IV. Antitrust Policy and Mergers
A. Mergers Laws, Enforcement, and Effects
1. Tirole (5.5)
2. IHIO (36)

B. Endogenous Mergers

V. Research and Development, Innovation, Patents, and Adoption of New Technology
A. Innovation and R&D
1. Tirole (10.1, 10.3, 10.4)
2. IHIO (14)
3. Supplemental Readings:
“Economic Welfare and the Allocation of Resources for Invention,” Arrow, in The Rate and Direction of Inventive Activity, ed. by R. Nelson (1962)  
“When does start-up innovation spur the gale of creative destruction?” Gans, Hsu and Stern, Rand Journal of Economics (2002)  

B. Patent Races.  
1. Tirole (10.2)  
2. IHIO (14.2)  
3. Supplemental Reading:  

C. Adoption and Diffusion of New Technology  
1. Tirole (10.5)  
2. IHIO (14.5)  
3. Supplemental Readings:  


D. Patent Licensing, Research Joint Ventures

1. Tirole (10.8)
2. IHIO (14.4)
3. Supplementary Readings:


VI. Economics of Science


B. Supplementary Readings


