

## Econ 554: Industrial Organization and Regulation

Lecture: Tue 15:30-16:50, Thu 15:30-17:50 at Room 1511

**Instructor:** Migiwa TANAKA  
e-mail: [mtanaka@ust.hk](mailto:mtanaka@ust.hk)  
office hours: Fri, 10am-12pm or by appointment  
office location: Room 2348

**Teaching Assistant:** Kun JIANG  
e-mail: [jiangkun@ust.hk](mailto:jiangkun@ust.hk)  
office hours: Fri, 13-14pm  
office location: Room 4383

**Course Website:** LMES (<http://lmes2.ust.hk>)

### 1 Course Description

This course provides graduate-level introduction to Industrial Organization. The first half of the course focuses on theoretical framework and the second half focuses on the empirical techniques.

### 2 Learning Outcomes

On completion of the course, students are expected to be able to:

- Solve basic game theoretic models of industrial organizations.
- Explain how one can use these models and econometric tools to perform empirical analysis of industries.
- Analyze potential anticompetitive cases and establish an argument using the models in industrial organization.
- Explain rationale of industry regulations and its possible consequence.
- Perform empirical analysis on an industry using these models and econometric tools.

### 3 Prerequisite

ECON513 or ECON521, and basic knowledge of econometrics or an approval of the instructor.

### 4 Course Organization

The course grade will be determined by following components.

- Midterm Exam (March 30th, 40%)
- Problem Sets (20%)
- Discussant Report & Presentation (40%)

**Discussant Report** Students are required to choose one of the papers from the list that I provide and give a critique of the paper in 15-minute presentation. Following the presentation, students are required to submit 3 pages written summary of the presentation.

**Research Proposal** Students can substitute half of discussant report points with research proposal. If student would like to take this option, please contact me as soon as possible to discuss potential topic. Decision of the topic has to be made by March 12th, 2010.

## 5 Textbooks

There is a required textbook for this course.

Pepall, Lynn, Dan Richards, and George Norman (2008): *“Industrial Organization: Contemporary Theory and Empirical Applications,”* 4th Edition, Wiley-Blackwell (hereafter cited as PRN)  
ISBN: 978-1-4051-7632-3

The lectures will to large extent follow the required textbook. However, we also cover some topics in following books. They are available on the UST library reserves.

Tirole, Jean (1988): *“The Theory of Industrial Organization,”* MIT Press, (hereafter cited as TRL),

Viscusi, W. Kip, Joseph E. Harrington and John M. Vernon (2005): *“Economics of Regulation and Antitrust,”* 4th Edition, MIT Press, (hereafter cited as VHV)

We also discuss articles to cover more recent development in each topic. Complete reading list are provided on course website. Required readings are announced each week.

A good references for practical issues in microeconometrics are:

Cameron, A. Colin and Pravin K. Trivedi (2005): *“Microeconometrics: Methods and Applications,”* Cambridge University Press,

Wooldridge, Jeffrey M. (2002): *“Econometric Analysis of Cross Section and Panel Data,”* MIT Press.

## 6 Topics:

1. Introduction to Industrial Organization
2. Recap of Microeconomics-(PRN2)
3. Market Structure and Market Power (PRN3)
4. Technology and Cost (PRN4)
5. Oligopoly
  - (a) Quantity Game (PRN9)
  - (b) Price game with homogenous products (PRN10, Sutton (1991) chapter2,3)
    - i. No Capacity Constraint (Bertrand Game)
    - ii. Exogenous Capacity Constraint
    - iii. Endogenous Capacity Constraint
  - (c) Price game with differentiated products (PRN7)

6. Price Discrimination (PRN5,6)
7. Issues in Durable Good Markets (TRL pp72-76, 79-87)
8. Collusion (PRN 14,15)
9. Merger (PRN 16, 17)
10. Regulation[VHV,Baron and Myerson (1982)]
11. Empirical Topic
  - (a) Estimation of Demand System [Berry (1994), Berry, Levinsohn, and Pakes (1995)]
  - (b) Entry [Bresnahan and Reiss (1991) Berry (1992)]
  - (c) Estimation of Dynamic Models [Pakes (1986), Rust (1987), Ericson and Pakes (1995)]
12. Other topics
  - (a) Innovation and New Products[TRL 10]
  - (b) Competitions with Search [Anderson/Renault(1999), Stahl(1989), Hong/Shum(2004)]
  - (c) Issues in Two-Sided Market

## 7 Learning Environment

Matured conduct in classroom is the requirement for this course. Distractive behaviors such as use of cell phone, instant messaging and chatting are not tolerated. Violation of this rule will result in deduction of points from student's grade. Please refer to following website for the guideline for good learning environment:

[http://www.ust.hk/vpao/conduct/good\\_learning\\_experience.pps](http://www.ust.hk/vpao/conduct/good_learning_experience.pps).

## 8 Academic Honesty and Integrity

Honesty and Integrity is central value in HKUST. Please be aware of the importance and maintain high standard of honesty in the problem sets and examinations in this course. Familiarize yourself to the university rules and the HKUST academic honor code by visiting following website:

<http://www.ust.hk/vpao/integrity/>.

## References

- Baron, David P., and Roger B. Myerson (1982): "Regulating a Monopolist with Unknown Costs," *Econometrica*, 50(4), 911–930.
- Berry, Steven (1994): "Estimating Discrete-Choice Models of Product Differentiation.," *RAND Journal of Economics*, 25(2), 242–262.
- Berry, Steven, James Levinsohn, and Ariel Pakes (1995): "Automobile Prices in Market Equilibrium," *Econometrica*, 63(4), 841–890.
- Berry, Steven T. (1992): "Estimation of a Model of Entry in the Airline Industry," *Econometrica*, 60(4), 889–917.
- Bresnahan, T. F., and P. C. Reiss (1991): "Entry and Competition in Concentrated Markets," *Journal of Political Economy*, 99(5), 977–1009.
- Ericson, R., and A Pakes (1995): "Markov-Perfect Industry Dynamics: A Framework for Empirical Work," *Review of Economic Studies*, 62(1), 53–82.
- Pakes, Ariel S (1986): "Patents as Options: Some Estimates of the Value of Holding European Patent Stocks," *Econometrica*, 54(4), 755–84.
- Rust, John (1987): "Optimal replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher," *Econometrica*, 55, 999–1033.
- Sutton, John (1991): *Sunk costs and market structure: Price competition, advertising, and the evolution of concentration*. MIT Press.