

Industrial Organization

Fudan University

Department: School of Economics

Course Code	ECON130242		
Course Title	Industrial Organization		
Credit	4	Credit Hours	72
Course Nature	<input type="checkbox"/> Specific General Education Courses <input type="checkbox"/> Core Courses <input type="checkbox"/> General Education Elective Courses <input type="checkbox"/> Basic Courses in General Discipline <input type="checkbox"/> Professional Compulsory Courses <input checked="" type="checkbox"/> Professional Elective Courses <input type="checkbox"/> Others		
Course Objectives	This course is a master course in Industrial Organization. The purpose of this course is to expose students to topics and techniques frequently discussed in Industrial Organization Literature.		
Course Description	The first half will cover demand, supply, entry and matching. The second half will cover single-agent dynamics and market dynamics.		
Course Requirements: Prerequisites: The first-year courses in microeconomics and econometrics.			
Teaching Methods: Lecture, presentation, group discussion			
Instructor's Academic Background: Ph.D.in Economics, University of Michigan, Ann Arbor, 2014 M.A. in Statistics, University of Michigan, Ann Arbor, 2011 M.A. in Economics University of Michigan, Ann Arbor, 2009 M.A. in Economics, Peking University, 2007 B.A. in Architectural History Peking University, 2004			

Members of Teaching Team				
Name	Gender	Professional Title	Department	Responsibility
Zhou Yu	Female	Lecturer	Industrial Economics	

Course Schedule

Module 1: Demand Estimation (2 weeks)

- 1.1 Aggregated Discrete Choice Models: Logit/Probit, Nested Logit Models, Random Coefficient Models
- 1.2 Most recent approaches

Materials:

Berry, S. (1994): "Estimating Discrete-Choice Models of Production Differentiation," *RAND Journal of Economics*, Vol.25, No. 2.

Goldberg, K., P. (1995): "Product Differentiation and Oligopoly in International Markets: The Case of the U.S. Automobile Industry," *Econometrica*, Vol. 63, No. 4.

Berry, S., J. Levinsohn and A. Pakes (1995): "Automobile Prices in Market Equilibrium," *Econometrica*, Vol. 63, No. 4, 841-890.

Hendel, I. (1999): "Estimating Multiple-Discrete Choice Models: An Application to Computerization Returns", *Review of Economic Studies*, Vol. 66, No. 2, 423-446.

Module 2: Production Estimation (2 weeks)

- 2.1 Overview of the issues in production estimation
- 2.2 Traditional approaches based on Instrumental Variable Approach and Panel Data
- 2.3 Most recent "structural" models based on the timing

Materials

Olley, G. S., and A. Pakes (1996): "The Dynamics of Productivity in the Telecommunications Equipment Industry," *Econometrica*, Vol. 64, 1263-1297.

Levinsohn, J. and A. Petrin (2003): "Estimating Production Functions Using Inputs to Control for Unobservables," *Review of Economic Studies*, Vol. 70, No. 2, 317-341.

Ackerberg, A. D., K. Caves and G. Frazer (2006): "Structural Identification of Production Functions," *working paper*, UCLA.

Module 3: Entry Games (2weeks)

- 3.1 Parametric approaches
- 3.2 Semi-parametric approaches

Materials

Berry, T. S. (1992): "Estimation of a Model of Entry in the Airline Industry," *Econometrica*, Vol. 60, No. 4, 1992, 889-917.

Bresnahan, F. T and P. C. Reiss (1990): "Entry in Monopoly Markets," *Review of Economic Studies*, Vol. 57, No. 4, 531-553.

Bresnahan, F. T. and P. C. Reiss (1991a): "Empirical Models of Discrete Games," *Journal of Econometrics*, 48, 67-81.

Bresnahan, F. T. and P. C. Reiss (1991b): "Entry and Competition in Concentrated Markets," *Journal of Political Economy*, Vol. 99, No. 5, 997-1009.

Tamer, E. (2003): "Incomplete Simultaneous Discrete Response Model with Multiple Equilibria," *Review of Economic Studies*, Vol. 70, No. 1, 147-165.

Ciliberto, F. and E. Tamer (2009): "Market Structure and Multiple Equilibria in Airline Markets," *Econometrica*, Vol. 77, No. 6, 1791-1828.

Berry, S. and E. Tamer (2006): "Identification in Models of Oligopoly Entry," in *Advances in Econometrics, Theory and Applications*, Ninth World Congress, ed. By R. Blundell, W. Newey, and T. Persson, Vol. 2, 46-85. Econometric Society Monographs: Cambridge University Press.

Fox, T. J. and N. Lazzati (2013): "Identification of Discrete Choice Models for Bundles and Binary Games," Working Paper, University of Michigan, Ann Arbor.

Kline, B. (2013): "Identification of Complete Information Games," Working Paper, University of Texas, Austin.

Dunker, F., S. Hoderlein and H. Kaido(2013): "Random Coefficients in Static Games of Complete Information," Working Paper, Boston College.

Module 4: Matching (2weeks)

- 4.1 Matching with Transferable Utility
- 4.2 Matching with Nontransferable Utility

Materials

Chapter 1, 2 and 3 of "Two-Sided Matching" by Roth and Sotomayor (1990).

Chapter 8 of "Two-Sided Matching" by Roth and Sotomayor (1990).

Fox, T. J., (2010): "Identification in Matching Games", *Quantitative Economics*, Vol 1, 203-254.

Fox, T.J., (2013): "Estimating Matching Games with Transfers", Working Paper,

University of Michigan, Ann Arbor.

Sorensen, M. (2007): "How Smart Is Smart Money? A Two-Sided Matching Model of Venture Capital", *Journal of Finance*, Vol. 62, No. 6, 2725-2762.

Module 5: Single Agent Dynamics (2weeks)

Materials

Rust, J. (1987): "Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zurcher," *Econometrica*, Vol. 55, No. 5, 999-1033.

Pakes, A. (1996): "Patents as Options: Some Estimates of the Value of Holding European Patent Stocks", *Econometrica*, Vol. 54, No.4, 755-784.

Hotz, V. J. and R. A. Miller (1993): "Conditional Choice Probabilities and the Estimation of Dynamic Models", *Review of Economic Studies*, Vol. 60, No. 3, 497-529.

Salva, A (2010): "Inferring Market Power under the Threat of Entry: The Case of the Brazilian Cement Industry," *The RAND Journal of Economics*, Vol. 41, No.2, 326-350.

Module 6: Market Dynamics I (2weeks)

Materials

Ericson, R. and A. Pakes (1995): "Markov-Perfect Industry Dynamics: A Framework for Empirical Work," *Review of Economic Studies*, Vol.62, No.1, 53-82.

Bajari, P., L.C. Benkard and J. Levin (2007): "Estimating Dynamic Models of Imperfect Competition," *Econometrica*, Vol. 75, No. 5, 1331-1370.

Section 3 of Akerberg, D., L., Benkard, S., Berry and A. Pakes (2006): "Econometric Tools for Analyzing Market Outcomes," *Handbook of Econometrics*, Vol.6.

Hendel, I and Nevo, A. (2006): "Measuring the Implications of Sales and Consumer Inventory Behavior," *Econometrica*, Vol. 74, No. 6, 1637-1673.

Gowrisankaran, G. and M. Rysman (2011): "Dynamics of Consumer Demand for New Durable Goods," *Journal of Political Economy*, Vol. 120, No. 6, 1173-1219.

Module 7: Market Dynamics II (2weeks)

Materials

Ryan, S. (2013): "The Costs of Environmental Regulation in a Concentrated Industry," *Econometrica*, Vol. 80, No. 3, 1019-1061.

Pakes, A., M. Ostrovsky and S. Berry (2007): "Simple Estimators for the Parameters of Discrete Dynamic Games (with entry/exit examples)," *The*

RAND Journal of Economics, Vol. 38, No. 2, 373-399.
 Aguirregabiria, V. and Mira, P. (2007) "Sequential Estimation of Dynamic Discrete Games", *Econometrica*, Vol. 75, No. 1, 1-53.
 Collard-Wexler (2010) "Demand Fluctuations in the Ready Mix Concrete Industry" Mimeo, NYU.
 Holmes, T (2011) "The Diffusion of Walmart and Economies of Density" *Econometrica*, Vol.79, No. 1, 253-302.

Final Exam

Note: Every student is required to read the background readings and papers before going to class. Papers listed in "Materials" are available in the e-learning system under the column of "Resources".

Tentative Schedule

Note: Schedule subject to change (and it most likely will). Please see course website for most up-to-date schedule.

DATE	CLASS
Lecture 1	General Overview
Lecture 2	Demand Estimation I: Aggregate Discrete Choice
Lecture 3	Demand Estimation I: Aggregate Discrete Choice
Lecture 4	Demand Estimation II: More recent approaches
Lecture 5	Demand Estimation II: More recent approaches
Lecture 6	Production Estimation I: Overview of issues
Lecture 7	Production Estimation I: Traditional Methods
Lecture 8	Production Estimation II: Most recent structural models
Lecture 9	Production Estimation II: Most recent structural models
Lecture 10	Entry Games I: Parametric approach
Lecture 11	Entry Games I: Parametric approach
Lecture 12	Entry Games II: Semiparametric approaches
Lecture 13	Entry Games II: Semiparametric approaches
	Take-home Middle Exam
	Take-home Middle Exam
Lecture 14	Matching I: Matching with Transferable Utility
Lecture 15	Matching I: Matching with Transferable Utility
Lecture 16	Matching II: Matching with Nontransferable Utility
Lecture 17	Matching II: Matching with Nontransferable Utility
Lecture 18	Single Agent Dynamics I
Lecture 19	Single Agent Dynamics I
Lecture 20	Single Agent Dynamics II

Lecture 21	Single Agent Dynamics II
Lecture 22	Market Dynamics I
Lecture 23	Market Dynamics I
Lecture 24	Market Dynamics I
Lecture 25	Market Dynamics I
Lecture 26	Market Dynamics II
Lecture 27	Market Dynamics II
Lecture 28	Market Dynamics II
Lecture 29	Market Dynamics II
	Final Exam Week

**The design of class discussion or exercise, practice, experience and so on:
Class Structure**

If you need a TA, please indicate the assignment of assistant:

Yes, a TA is needed and will help the lecturer with the attendency, organization of group discussion.

Grading & Evaluation (Provide a final grade that reflects the formative evaluation process):

4 homework assignments: 40%
2 take-home midterm exams: 40%
Research Proposal: 20%

Passing grade: 60, below 60 = fail

Policy on Collaboration

You may collaborate on homework assignments, but each individual must turn in a separate assignment and each individual is responsible for the content of the assignments that she/he turns in. You may **NOT** collaborate on exams.

Policy and Academic Fraud

Anyone found to have cheated on an exam (including but not limited to consulting another student or consulting unauthorized materials—which includes other students' exams) will fail the course. In addition, the Assistant Dean for Student Academic Affairs will be asked to place you on disciplinary probation.

Policies on Homework Assignments

All assigned work must be either typed or legibly written. Poor spelling, handwriting, grammar, style, etc., will not necessarily count against you. However, if the grader of the assigned work is unable to discern the meaning of your work, your response will be assumed to be wrong. You must **show all of your work** in order to receive full credit.

The due date and time for homework assignments are given at the top of each assignment. Late assignments will not be accepted except under extreme circumstances and with a documented excuse. If a situation arises that necessitates that an assignment be turned in late, it is your responsibility to contact the instructor to the time that the assignment is due unless you are physically unable to do so.

Policies on Exams

The two take-home exams are not Cumulative and you need to complete these two exams independently.

As with homework assignments, exam answers must be legibly written. Poor spelling, handwriting, grammar, style, etc., will not necessarily count against you. However, if the grader of the exam is unable to discern the meaning of your work, your response will be assumed to be wrong.

You must show all of your work in order to receive full credit. Showing all work includes clearly identifying which formula(s)/equation(s) you are using to answer the question and why the specific use of the formula(s)/equation(s) is appropriate. Any answers that are not accompanied by sufficient information to show how the answer was derived will **NOT** be awarded full credit.

The exams will be **TAKE-HOME** and **OPEN-BOOK**.

Policy on Missed Exams

All exams must be taken during the days and times listed above. If you do not take an exam you will receive a score of zero for that exam. An exception will be made for **excused** absences such as a medical emergency provided that appropriate documentation for the absence is provided.

If you do receive an **excused** absence for the midterm exam, your score on the final exam will be used as your score for the excused midterm exam when computing your course grade. If you receive an **excused** absence for the final exam, you will need to arrange a make-up exam.

Students with Disabilities

If you believe you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities to help us determine appropriate accommodation. I will treat any information you provide as private and confidential.

Teaching Materials & References (Including Author, Title, Publisher and Publishing time):**TBA**