

ECON5313 Industrial Organization

University of Oklahoma, Fall 2025

T/R, 1:30-2:45pm, Cate Center 1 326

Instructor: Dr. Qihong Liu Office: Cate Center 1, Room 426

E-mail: qliu@ou.edu

Office Hours: T/R, 3-4pm and by appointment

Course Website: <https://canvas.ou.edu>

TA: Mieon Seong, Cate Center 1 220. E-mail: mieon@ou.edu

TA Office Hours: Wed, 4-5pm and by appointment

Course Description and Learning Outcomes

Industrial Organization studies the behavior of firms and the functioning of markets, as well as the role of public policy in promoting efficiency. By the end of this course, students will develop a strong understanding of key research themes in modern industrial organization, including pricing and product competition, entry and exit, digital platforms, and the growing role of artificial intelligence (AI) in economics and business. While some traditional theoretical models will be introduced early on, most topics will be explored through recent research papers. Students will learn to critically engage with these papers in ways that prepare them to conduct their own research. In addition to lectures, students will present selected papers and pursue a research project, gaining experience in generating ideas and carrying out original work.

Recommended textbooks include: (1) *The Theory of Industrial Organization* by Jean Tirole, MIT Press, (2) *Handbook of Industrial Organization (HIO)*, Vol. 1, 2, and 3. Volume 3 (2007, Mark Armstrong and Robert Porter edits) surveys the major developments in IO since Tirole.

Grading

Your grade will be based on homework and class participation (25%), a midterm exam (25%), group presentations (20%), and term paper and presentation (30%). You are encouraged to form study groups to discuss homework and lecture materials. More details about the research component will be discussed later.

Honor Policy

You may not access any old problem sets, old exams, answer keys without my explicit permission. When collaborating with others, do not copy answers from another student. Always cite any resources or individuals you consult to complete an assignment.

Course Schedule

The course materials are arranged by topics, each usually covered over several classes. Tirole remains the classic graduate IO textbook. Several problem sets will be assigned, including paper discussions and reviews.

A tentative course schedule is listed below. Approximate number of lectures to cover each chapter is listed in parenthesis. Additional class sessions will be devoted to selected papers, group presentations, and term paper presentations. There can be changes to this schedule during the semester, which will be announced in class. It is your responsibility to update information about the course according to announcements made in class.

Chapter 0. Introduction (0)

Readings: Tirole; HIO 3.

- Varian, H. “How to Build an Economic Model in Your Spare Time,” first published in 1997, updated in 2016, American Economist.
- Berk, J., C. Harvey, and D Hirshleifer, “How to Write an Effective Referee Report and Improve the Scientific Review Process,” Journal of Economic Literature, 2017.
- Shanjun Li (Stanford) maintains a page “PhD Resources,” accessible at <https://shanjunli6.github.io/phdRes.html>

Chapter 1. Monopoly Pricing (1)

- Single- and multi-product monopoly pricing
- Price discrimination

Readings: Tirole Ch. 1

- Yuxin Chen, Yue Dai, Zhe Zhang and Kun Zhang (2024). “Managing Multirooming: Why Uniform Price Can Be Optimal for a Monopoly Retailer and Can Be Uniformly Lower,” MgtSci
- Judith Chevalier and Austan Goolsbee (2009). “Are durable goods consumers forward-looking? Evidence from college textbooks”, QJE
- Pinelopi Goldberg (1996). “Dealer price discrimination in new car purchases: Evidence from the consumer expenditure survey”, JPE
- Kareem Haggag, Brian McManus and Giovanni Paci (2017). “Learning by Driving: Productivity Improvements by New York City Taxi Drivers,” AEJ: Applied

- Francine Lafontaine and Kathryn Shaw (2016). “Serial Entrepreneurship: Learning by Doing?” *Journal of Labor Economics*
- Phillip Leslie (2004). “Price discrimination in Broadway theater,” *Rand*
- Qihong Liu and Konstantinos Serfes (2010). “Third-degree price discrimination,” *JIOE*
- Ben Shiller (2020). “Approximating Purchase Propensities and Reservation Prices from Broad Consumer Tracking,” *IER*

Chapter 2. Static Models of Oligopoly (5)

- Bertrand and Cournot competition
- Spatial competition
- Vertical differentiation

Readings: Tirole Ch. 5, Ch. 7

- Bresnahan, T. and P. Reiss (1991). “Entry and Competition in Concentrated Markets,” *JPE*
- Ferrier, P. and Q. Liu (2010). “Consumer sorting of vertically differentiated goods,” *EL*
- Hans Degryse and Steven Ongena (2005). “Distance, Lending Relationships, and Competition,” *JF*
- Hotelling, H. (1929). ”Stability in Competition”, *EJ*.
- Kreps, D., and J. Scheinkman, (1983). “Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes”, *Bell*
- Liu, Q. and K. Serfes (2004). “Quality of information and oligopolistic price discrimination,” *JEMS*
- Liu, Q. and K. Serfes (2005). “Imperfect price discrimination, market structure and efficiency,” *CJE*
- Perloff, J.M. and Salop, S.C. (1985) “Equilibrium with product differentiation,” *REStud*
- Shaked and Sutton (1982). “Relaxing Price Competition through Product Differentiation,” *REStud*

Chapter 3. Dynamic Models of Oligopoly (3)

- Dynamic price competition
- Competition in the airline industry
- Tacit collusion

Readings: Tirole Ch. 6.

- Bernheim, D. and M. Whinston (1990). “Multimarket contact,” Rand
- Severin Borenstein (1991). “Selling costs and switching costs: explaining retail gasoline margins,” Rand
- Severin Borenstein and Nancy Rose (1994). “Competition and Price Dispersion in the U.S. Airline Industry,” JPE
- Brueckner, J., D. Lee, P. Picard, and E. Singer (2015). “Product Unbundling in the Travel Industry: The Economics of Airline Bag Fees,” JEMS
- Chen, Y. (1997) “Paying Customers to Switch,” JEMS
- Dai, M., Q. Liu and K. Serfes (2014). “Is the Effect of Competition on Price Dispersion Non-Monotonic? Evidence from the U.S. Airline Industry,” REStat
- Dana, James, Jr. (1998). “Advance-Purchase Discounts and Price Discrimination in Competitive Markets,” JPE
- Farrell, J. and P. Klemperer, “Competition in Markets with Switching Costs and Lock-In”, HIO 3.
- Yui-fai Fong and Qihong Liu (2011). “Loyalty Rewards Facilitate Tacit Collusion,” JEMS
- *Forbes, S. and M. Lederman (2009). “Adaptation and Vertical Integration in the Airline Industry,” AER
- *Fudenberg, D and J. Tirole (2001). “Consumer Poaching and Brand Switching,” Rand
- *Gerardi, Kristopher, and Adam Shapiro (2009). “Does Competition Reduce Price Dispersion? New Evidence from the Airline Industry,” JPE
- Goolsbee Austan, and Chad Syverson (2008). “How Do Incumbents Respond to the Threat of Entry? Evidence from the Major Airlines,” QJE

- Lei He, Myongjin Kim and Qihong Liu (2022). “Competitive Response to Unbundled Services: An Empirical Look at Spirit Airlines,” JEMS
- Myongjin Kim, Qihong Liu and Nicholas Rupp (2023). “When Do Firms Offer Higher Product Quality? Evidence from the Allocation of Inflight Amenities,” RIO
- Mazzeo, M. (2003) “Competition and Service Quality in The U.S. Airline Industry,” Review of IO
- *Prince, J. and D. Simon (2015). “Do Incumbents Improve Service Quality in Response to Entry? Evidence from Airlines’ On-Time Performance,” MgtSci (This paper also covers entry – topic of next chapter.)
- Victor Stango (2002). “Pricing with Consumer Switching Costs: Evidence from the Credit Card Market,” JIE
- *V. Brian Viard (2007). “Do switching costs make markets more or less competitive? The case of 800-number portability,” Rand
- J. Miguel Villas-Boas (1999). “Dynamic competition with customer recognition,” Rand

Chapter 4. Entry and Exit (3)

- Natural monopolies
- Accommodated, deterred and blockaded entry
- Limit pricing and signal jamming

Readings: Tirole Ch. 8, Ch. 9.

- *José Azar, Martin C. Schmalz and Isabel Tecu (2018). “Anticompetitive Effects of Common Ownership,” JF
- Bagwell, K. (1992). “A Model of Competitive Limit Pricing,” JEMS
- Bagwell, K. and G. Ramey (1991). “Oligopoly Limit Pricing,” Rand
- *Panle Jia Barwick, Luming Chen, Shanjun Li, Xiaobo Zhang (2025). “Entry deregulation, market turnover, and efficiency: China’s business registration reform,” REStat
- *Emek Basker (2005). “Job Creation or Destruction? Labor Market Effects of Wal-Mart Expansion”, REStat
- *Bart Bronnenberg, Sanjay Dhar and Jean-Pierre Dubé (2009). “Brand History, Geography, and the Persistence of Brand Shares”, JPE

- *Bart Bronnenberg, Jean-Pierre Dubé and Matt Gentzkow (2012). “The Evolution of Brand Preferences: Evidence from Consumer Migration,” AER
- Holmes, T. “The Diffusion of Wal-Mart and Economies of Density” Econometrica (2011)
- *Panle Jia (2008). “What Happens When Wal-Mart Comes to Town: An Empirical Analysis of the Discount Retailing Industry,” Econometrica
- Milgrom, P. and J. Roberts (1982). “Limit Pricing and Entry Under Incomplete Information: An Equilibrium Analysis,” Econometrica
- Katja Seim (2006). “An empirical model of firm entry with endogenous product-type choices,” Rand
- Spence, A. M. “Contestable Markets and the Theory of Industry Structure: A Review Article,” JEL (1983).

Chapter 5. Platforms and two-sided markets (3)

- Introduction

Characteristics of platform markets; Pricing strategy and cross subsidization; Digital transformation

- Digital advertising and monetization

The economics of digital advertising; Targeted Advertising, Consumer Data and Privacy; Ad Skipping and Ad Blocking

- Algorithmic Curation, Ratings, and Matching

Algorithmic Curation and Personalization; Ratings, Reviews, and Reputation Management; Algorithmic Matching and Marketplace Design; Bias and algorithmic Governance

- Competition, Power, and Regulation of Platforms

Market Power and Barriers to Entry in Platform Markets; Platform Envelopment, Vertical Integration, and Self-Preferencing; Antitrust, Governance, and Global Regulation of Platforms

See Readings in Chapter 5 lecture notes.

Chapter 6. Application of AI in Economics and Business (2)

- Introduction

- The Economics of AI

AI as a General-Purpose Technology; AI and productivity; AI and Labor Markets

- AI Applications and Implications

AI in Marketplaces and Matching; AI in Pricing and Revenue Management; AI and Marketing Automation; Governance, Bias, and Regulation

See Readings in Chapter 6 lecture notes.

Generative AI Policy

In this course, you are welcome to use generative AI tools (such as ChatGPT or similar) to help with things like polishing your writing, organizing your thoughts, or exploring different ways to approach an idea. These tools can be valuable in the creative and drafting stages of your work, but they are not a substitute for your own critical thinking, analysis, or original contribution.

That said, you are fully responsible for the accuracy, quality, and integrity of the submitted work. If you choose to use AI, you need to tell me what you used it for (for example: “I used ChatGPT to help reorganize paragraphs and suggest alternative phrasing”). Being open about this is important for transparency and academic integrity.