This course provides a graduate-level introduction to Industrial Organization (IO), with a focus on empirical methods and applications. It is designed to introduce Ph.D. students to a variety of methods, topics, and industries in the field with the goal of preparing them to conduct thesis research in this area. The methods and topics may be of interest to graduate students in other sub-fields of economics. Students interested in this class should also strongly consider taking ECO 220C, a second empirical industrial organization class, taught in the fall.

**Lectures:** Tuesday 10 AM – 12 PM, 648 Evans

There is no required textbook for the course, as most readings are academic journal articles that you should be able to access on the course website (or online otherwise). One textbook that might be useful as general reference on IO theory and classical work in IO is:


Another valuable resource for surveys of different IO topics is the *Handbook of Industrial Organization* (HIO1, 2, 3) published by Elsevier-North Holland in 1987 (1 and 2) and 2007 (3). These books and the Tirole book are simply potential background references and don’t enter into the primary course readings, so don’t feel obligated to buy them.

Here are some details on the main course logistics:

**Course Requirements:** Grading for the course will be based on three problem sets (40%), two referee reports (20%), one research proposal (30%) and class participation (10%). Students should attend the ECO 221 IO seminar series whenever possible: this is a great way to learn about current research in IO.

The problem sets will be primarily computational exercises that will require you to write code in STATA and MATLAB in order to answer empirical economic questions that follow the course material. Problem Set 1 will be due on **Friday, February 24**. Problem Set 2 will be due on **Friday, March 24**. Problem Set 3 will be due on **Friday, April 21**. These problem sets can be done in up to groups of three (working in a group is encouraged).

The referee reports will require you to critically evaluate recent research papers in IO. The first report will be due on **Friday, February 10**. The second will be due on **Friday, March 10**. Students will receive a list of five potential papers to choose from for each report. Additional papers will be allowed on request. Two classes in IO 220A will be set aside for students to present their reports to the class.

Your research proposal will be a clearly-defined original research project that builds on the material discussed in the course or closely related material. Each student will schedule a meeting with me in the first two weeks of April to discuss their proposal (with a short outline of what they’re planning to do). After receiving comments, your final proposal will be due on **Friday, May 12**. This can be done in groups of up to three. Detailed instructions will be provided.

In the reading list that follows each section contains starred items which are especially important and will generally be covered in class. The week for that reading is listed next to the star, and I’ll also bring up required readings in class the week before. The reading list is extensive and most of it is meant to be a reference in case you’re interested in work in a particular area. You should read at least one or two starred papers per week in advance of class in order to benefit the most from the course.
The following abbreviations are used for journal titles:

AER  American Economic Review
BJE  Bell Journal of Economics
EMA  Econometrica
EJ   Economic Journal
IJO  International Journal of Industrial Organization
JE   Journal of Econometrics
JEL  Journal of Economic Literature
JEMS Journal of Economics & Management Strategy
JEP  Journal of Economic Perspectives
JET  Journal of Economic Theory
JIE  Journal of Industrial Economics
JLE  Journal of Law and Economics
JPE  Journal of Political Economy
QJE  Quarterly Journal of Economics
RJE  Rand Journal of Economics
ReStat Review of Economics and Statistics
ReStud Review of Economic Studies

Outline of Topics by Week

Week 1 (January 17)  Introduction to Empirical Industrial Organization
Week 2 (January 24)  Insurance Markets
Week 3 (January 31)  Insurance Markets
Week 4 (February 7)  Insurance Markets & Inertia
Week 5 (February 14)  Empirical Studies of Pricing and Demand (Differentiated Products)
Week 6 (February 21)  Empirical Studies of Pricing and Demand (Differentiated Products)
Week 7 (February 28)  Presentations from Referee Report # 1
Week 8 (March 7)     Vertical Market Structure
Week 9 (March 14)    Price Discrimination (Dynamic)
Week 10 (March 21)   Entry
Week 11 (April 4)    Presentations from Referee Report # 2
Week 12 (April 11)   Search Costs
Week 13 (April 18)   Behavioral IO
Week 14 (April 25)   Open Class: Health Care, Vertical Market Structure 2, IO and IT, Energy, IO and Development, Other
**Condensed Starred Reading List**


*13  B. Handel and Jo. Schwartzstein, The Information We (Don’t) Use in Health Choices and Beyond: Frictions or Biases?, UC Berkeley working paper, 2017.

I. Introduction to Empirical Industrial Organization


II. Insurance Markets


A. Kowalski, Censored Quantile Instrumental Variable Estimates of the Price Elasticity of Expenditure on Medical Care, Yale University working paper, 2010.


III. Empirical Studies of Pricing and Demand

Static Models


Tirole, chap. 5, Section 2.1 (pp. 96–100); Sections 7.1, 7.2, 7.5 (pp. 279–88, 296–300).


Repeated Interaction


Differentiated Products


Welfare Measures Computed From Estimated Demand Systems


**Price Discrimination – Static**


L. Stole, “Price Discrimination and Competition,” HIO3, Chapter 34.
H. Varian, “Price Discrimination,” HIO1, Chapter 10.

**Price Discrimination – Dynamic**


**IV. Market Structure and Competition**

**Horizontal Market Structure & Antitrust**


**Vertical Market Structure**


S. Tadelis, “Complexity, Flexibility, and the Make-or-Buy Decision” AER, 2002, 433-437


O. Williamson “The Vertical Integration of Production: Market Failure Considerations,” *AER*, May 1971, pp. 112-123.


**Entry**


V. Choice Frictions: Search Costs and Switching Costs

Search Costs


Switching Costs


VI.  Asymmetric Information and Product Quality


**VII. Behavioral IO**

**Consumers**


*13* B. Handel and Jo. Schwartzstein, *The Information We (Don’t) Use in Health Choices and Beyond: Frictions or Biases?,* UC Berkeley working paper, 2017.


**Firms**


**VIII. Special Topics**

**Health Care Markets**


K. Ho, “Insurer-Provider Networks in the Medical Care Market,” *AER*, 2009, 393-430.


**Auctions**


Kei Kawai, “Detecting Large-Scale Collusion in Procurement Auctions,” NYU working paper.

**Development and IO**


**Internet Markets**


**Education and Industrial Organization**

Christopher Nielsen, “Targeted Vouchers, Competition Among Schools, and the Academic Achievement of Poor Students,” Yale University working paper, 2013.
