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.

Lectures: Tuesday 10 AM – 12 PM, 639 Evans

There is no required textbook for the course, as most readings are academic journal articles that you should be able to access online. 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 (30%), two referee reports (20%), and one research proposal (40%) 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 27. Problem Set 2 will be due on Friday, April 3. Problem Set 3 will be due on Friday, May 1. 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 13. The second will be due on Friday, March 13. Students will receive a list of five potential papers to choose from for each report. Additional papers will be allowed on request. Two classes 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 Wednesday, May 13. 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:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Journal Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AER</td>
<td>American Economic Review</td>
</tr>
<tr>
<td>BJE</td>
<td>Bell Journal of Economics</td>
</tr>
<tr>
<td>EMA</td>
<td>Econometrica</td>
</tr>
<tr>
<td>EJ</td>
<td>Economic Journal</td>
</tr>
<tr>
<td>IJIO</td>
<td>International Journal of Industrial Organization</td>
</tr>
<tr>
<td>JE</td>
<td>Journal of Econometrics</td>
</tr>
<tr>
<td>JEH</td>
<td>Journal of Economic History</td>
</tr>
<tr>
<td>JEL</td>
<td>Journal of Economic Literature</td>
</tr>
<tr>
<td>JEMS</td>
<td>Journal of Economics &amp; Management Strategy</td>
</tr>
<tr>
<td>JEP</td>
<td>Journal of Economic Perspectives</td>
</tr>
<tr>
<td>JET</td>
<td>Journal of Economic Theory</td>
</tr>
<tr>
<td>JIE</td>
<td>Journal of Industrial Economics</td>
</tr>
<tr>
<td>JLE</td>
<td>Journal of Law and Economics</td>
</tr>
<tr>
<td>JPE</td>
<td>Journal of Political Economy</td>
</tr>
<tr>
<td>QJE</td>
<td>Quarterly Journal of Economics</td>
</tr>
<tr>
<td>RJE</td>
<td>Rand Journal of Economics</td>
</tr>
<tr>
<td>ReStat</td>
<td>Review of Economics and Statistics</td>
</tr>
<tr>
<td>ReStud</td>
<td>Review of Economic Studies</td>
</tr>
</tbody>
</table>

Outline of Topics by Week

Week 1 (January 20)  Introduction to Empirical Industrial Organization
Week 2 (January 27)  Empirical Studies of Pricing and Demand (Differentiated Products)
Week 3 (February 3)  Empirical Studies of Pricing and Demand (Differentiated Products)
Week 4 (February 10) Vertical Market Structure
Week 5 (February 17)  Price Discrimination (Dynamic)
Week 6 (February 24)  Presentations from Referee Report # 1
Week 7 (March 3)  Insurance Markets
Week 8 (March 10)  Insurance Markets
Week 9 (March 17)  Insurance Markets & Inertia
Week 10 (April 3)  Presentations from Referee Report # 2
Week 11 (April 10)  Entry
Week 12 (April 17)  Search Costs
Week 13 (April 24)  Behavioral IO
Week 14 (May 1)  Open Class: Health Care, Vertical Market Structure 2, IO and IT, Energy, IO and Development, Other
I. Introduction to Empirical Industrial Organization


II. 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**


III. 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**


**IV. Insurance Markets**


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


V. Choice Frictions: Search Costs and Switching Costs

Search Costs


A. Sorensen, “Equilibrium Price Dispersion in Retail Markets for Prescription Drugs,” JPE, 833-850.


Switching Costs


**VI. Asymmetric Information and Product Quality**


VII. Behavioral IO

Consumers


**Firms**


**VIII. Special Topics**

**Health Care Markets**

*M* 14?


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

*M* 14?


**Auctions**


*R2 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.
