

**ECO 7938 (0307)**  
**IO: Theory and Policy**

**Fall 2019**  
**J. Hamilton**

### **Industrial Organization: Theory and Policy**

This is the first course in a two-course sequence on the economics of industrial organization. Empirical industrial organization is the subject of the spring course, taught by Prof. Chunrong Ai. This course begins with a brief review of some topics in undifferentiated oligopoly, and then focuses on oligopoly with differentiated products, modern monopolistic competition models, strategic moves in oligopoly, intellectual property, antitrust, and some other topics as time permits. The focus is to prepare you to do research in industrial organization and to apply these models in other fields of economics.

The reading list is more extensive than what we will actually cover; it is intended to serve as a reference guide for your future work and as a general bibliography. At the beginning of each section, I will announce which articles you will be responsible for.

**Prerequisites** If you have not taken Micro Theory (ECO 7115), Game Theory (ECO 7404), and Markets (ECO 7117) class, discuss your preparation with me.

#### **Requirements**

*Problem sets:* There will be approximately one every two weeks. They are important for learning the material, but do not count heavily toward your grade. Some problem sets extend a lecture presentation, while others include detailed examples. Unless stated otherwise, they must be handed in for grading. You may discuss these problems with other students, but you must turn in your own answers.

*Take-home midterm:* Tentatively, this will be distributed on Tuesday 15 October and due Tuesday 22 October. It will consist primarily of problems. It may also include a careful analysis of a paper not covered in class. You are forbidden to discuss the exam questions with anyone other than the instructor; noncompliance will be a serious violation of academic honesty.

*Take-home final:* This will be handed out Tuesday 3 December and due Wednesday 11 December. It will consist of problems and essays and possibly include a careful analysis of a paper not covered in class. The rules for the midterm take-home apply.

**Class Times** Tuesdays and Thursdays 7<sup>th</sup> and 8<sup>th</sup> periods, MAT 113

**Office Hours** Wednesdays 1:30 pm - 3:30 pm or by appointment

**Office** MAT 328 (telephone 392-2999)      **Email**      [hamilton@ufl.edu](mailto:hamilton@ufl.edu)

## **Texts**

**T** Tirole, *The Theory of Industrial Organization*, MIT Press (1988)

**V** Vives, *Oligopoly Pricing: Old Ideas and New Tools*, MIT Press (1999)

## **Supplementary Texts**

Motta, *Competition Policy: Theory and Practice*, Cambridge U Press (2004)

Belleflamme and Peitz, *Industrial Organization: Markets and Strategies*, Cambridge U Press (2010)

Martin, *Advanced Industrial Economics*, 2<sup>nd</sup> edition, Blackwell (2002)

*Handbook of Industrial Organization*, Elsevier

<http://www.sciencedirect.com/science/handbooks/1573448X>

The three volumes range for 1989 to 2007 and offer some review articles on different topics.

While most course material is from journal articles, these books have useful presentations of some of the material. They also contain useful problems for practice.

## **Abbreviations of Journal Titles**

<i>AER</i>	American Economic Review
<i>Bell</i>	Bell Journal of Economics
<i>EL</i>	Economics Letters
<i>IER</i>	International Economic Review
<i>IJIO</i>	International Journal of Industrial Organization
<i>JEP</i>	Journal of Economic Perspectives
<i>JET</i>	Journal of Economic Theory
<i>QJE</i>	Quarterly Journal of Economics
<i>RAND</i>	RAND Journal of Economics
<i>REStud</i>	Review of Economic Studies

Several of these journals are available online through [www.jstor.org](http://www.jstor.org). Others are available at <http://www.sciencedirect.com/>. The main readings will be available on Canvas.

Enrollment in this course constitutes acknowledgement of the following:

- 1) I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University.
- 2) I will adhere to university copyright policies.

3) Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

**Syllabus**  
*(tentative—subject to additions)*

**1. Review of Homogeneous Product Oligopoly; New Approaches**

**a) *Bertrand revisited***

**T** 5.3.2

**V** 4, 5

Hamilton, “The Strategic Effect of Supply Guarantees: The Raincheck Game” in *Market Structure and Competition Policy: Game-Theoretic Approaches*,” edited by G. Norman and J.-F. Thisse, Cambridge University Press

**b) *New approaches to existence and comparative statics***

**V** 1

Amir, “Supermodularity and Complementarity in Economics: An Elementary Survey,” *Southern Economic Journal* 71: 636-660 (2005)

**2. Product Differentiation**

**a) *Horizontal and location models***

Cheng, “Comparing Bertrand and Cournot Equilibria: A Geometric Approach,” *RAND* 16: 146-152 (1985)

Vives, “On the Efficiency of Bertrand and Cournot Equilibria with Product Differentiation,” *JET* 36: 166-75 (1985)

D’Aspremont, Gabszewicz, and Thisse, “On Hotelling’s ‘Stability in Competition,’” *Econometrica* 47: 1145-1150 (1979)

**T** 7.1.1

**V** 6

Osborne and Pitchik, “Equilibrium in Hotelling’s Model of Spatial Competition,” *Econometrica* 55: 911-922 (1987)

Von Ungern-Sternberg, “Monopolistic Competition and General Purpose Products,”  
*REStud* 55: 231-246 (1988)

Hamilton, Thisse, and Weskamp, “Spatial Discrimination: Bertrand vs. Cournot in a  
Model of Location Choice,” *Regional Science and Urban Economics*  
19: 87-102 (1989)

Adams and Williams, “Zone Pricing in Retail Oligopoly,” Cowles Foundation Discussion  
Paper No. 2079 (2017)

Della Vigna and Gentzkow, “Uniform Pricing in US Retail Chains”, revision of NBER  
Working Paper 23996 (2019)

**b) Vertical differentiation models**

T 7.5.1

Shaked and Sutton, “Relaxing Price Competition Through Product Differentiation,”  
*REStud* 49: 3-13 (1982)

Shaked and Sutton, “Natural Oligopolies,” *Econometrica* 51: 1469-1484 (1983)

Aoki and Prusa, “Sequential versus Simultaneous Choice with Endogenous  
Quality,” *IJIO* 15:103-121 (1996)

Vogel, “Spatial Competition with Heterogeneous Firms,” *JPE* 116: 423-466 (2008)

**c) Monopolistic competition and random utility models**

T 7.5.2

Dixit and Stiglitz, “Monopolistic Competition and Optimum Product Diversity,” *AER*,  
67: 297-308 (1977)

Spence, “Product Selection, Fixed Costs, and Monopolistic Competition,” *REStud* 43:  
217-235 (1976)

Ottaviano, Tabuchi, and Thisse, “Agglomeration and Trade Revisited,” *IER* 43: 490-435  
(2002)

Anderson, de Palma, and Thisse, “Demand for Differentiated Products, Discrete Choice  
Models, and the Characteristics Approach,” *RE Stud* 56: 21-35 (1989)

Anderson, de Palma, and Thisse, *Discrete Choice Theory of Product Differentiation*, MIT Press, 1992

Haile, Hortacsu, and Kosenok, "On the Empirical Content of Quantal Response Equilibrium Models," *AER* 98: 180-200 (2008)

Anderson, de Palma, and Nesterov, "Oligopolistic Competition and the Optimal Provision of Products," *Econometrica* 63: 1281-1301 (1995)

Chen and Riordan, "Price-increasing Competition," *RAND* 39: 1042-1058 (2008)

Mankiw and Whinston, "Free Entry and Social Inefficiency," *RAND* 17: 48-58 (1986)

### **3. Dynamic Price Competition**

Stigler, "A Theory of Oligopoly," *JPE* 72: 44-61 (1964)

Friedman, *Oligopoly and the Theory of Games*, Elsevier (1977)

Green and Porter, "Noncooperative Collusion under Imperfect Price Information," *Econometrica* 52: 87-100 (1984)

Rotemberg and Saloner, "A Supergame-Theoretic Model of Price Wars during Booms," *AER* 76: 390-407 (1986)

### **4. Entry and Exit, Strategic Moves, Raising Rivals' Costs**

T 8

#### ***a) Contestability: an unsuccessful model***

Baumol, "Contestable Markets: An Uprising in the Theory of Industry Structure," *AER* 72: 1-15 (1982)

Weitzman, "Contestable Markets: An Uprising in the Theory of Industry Structure: Comment," *AER* 73: 486-487 (1983)

Schwartz and Reynolds, "Contestable Markets: An Uprising in the Theory of Industry Structure: Comment," *AER* 73: 488-490 (1983)

Baumol, Panzar, and Willig, "Contestable Markets: An Uprising in the Theory of Industry Structure: Reply," *AER* 73: 491-496 (1983)

**b) Commitment models**

V 7.4

Bulow, Geanakoplos, and Klemperer, "Multimarket Oligopoly: Strategic Substitutes and Complements," *JPE* 93: 488-511 (1983)

Brander and Spencer, "Strategic Commitment with R&D: The Symmetric Case," *Bell* 14: 225-235 (1983)

**c) Facilitating practices; pricing policies**

Cooper, "Most-favored-customer Pricing and Tacit Collusion," *RAND* 17: 377-388 (1986)

**d) Switching costs**

Klemperer, "Markets with Consumer Switching Costs," *QJE* 102: 375-394 (1987)

Klemperer, "The Competitiveness of Markets with Switching Costs," *RAND* 18: 138-150 (1987)

Klemperer, "Competition when Consumers Have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade," *REStud* 62: 515-539 (1995)

**e) Mergers**

Salant, Switzer, and Reynolds, "Losses from Horizontal Merger: The Effect of an Exogenous Change in Industry Structure on Cournot-Nash Equilibrium," *QJE*, 98(2), 185-199 (1983)

Farrell and Shapiro "Horizontal Mergers: An Equilibrium Analysis," *AER* 80: 107-126 (1990)

Deneckere and Davidson, "Incentives to Form Coalitions with Bertrand Competition," *RAND* 16: 473-486 (1985)

Baye, Crocker, and Ju, "Divisionalization, Franchising, and Divestiture Incentives in Oligopoly," *AER* 86: 223-236 (1996)

**e) Entry prevention**

Motta, ch. 7.3

Judd, "Credible Spatial Preemption," *RAND* 16: 153-166 (1985)

Nalebuff, “Bundling as an Entry Barrier,” *QJE* 119: 159-187

Anderson and Engers “Preemptive Entry in Spatially Differentiated Markets,” *Economic Theory* 17: 419-445 (2001)

## 5. Antitrust

Motta, ch. 1 and 2

Belleflamme and Peitz, ch. 14 and 15

Kovacic and Shapiro, “Antitrust Policy: A Century of Economic and Legal Thinking,” *JEP* 14: 43-60 (2000)

Baker, *The Antitrust Paradigm: Restoring a Competitive Economy*, Harvard, 2019.  
Especially ch. 5

Ashenfelter and Hosken, “The Effects of Mergers on Consumer Prices: Evidence from Five Selected Case Studies,” *Journal of Law and Economics* 53: 417-466 (2010)

Ashenfelter, Hosken, and Weinberg, “Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers,” *Journal of Law and Economics* 57: S67-S100 (2014)

Salop, “Question: What Is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard,” *Loyola Consumer Law Review* 22: 336-353 (2009-2010)

Whinston, “Antitrust Policy toward Horizontal Mergers,” *Handbook of IO* (2007),  
sections 1-3 (skip empirical analysis)

Asker, “Conditional Pricing,” *Monopoly Matters* 12 (no. 1): 8-12 (2014)

Chen and Rey, “Loss Leading as an Exploitative Practice,” *AER* 102: 3462-3482 (2012)

Zhou, “Competitive Bundling,” *Econometrica* 85: 145-172 (2017)

Armstrong and Vickers, “Competitive Non-linear Pricing and Bundling,” *REStud* 77: 30-60 (2010)

Rey and Tirole, “The Logic of Vertical Restraints,” *AER* 76: 921-939 (1986)

Ellison, “A Model of Add-on Pricing,” *QJE* 120: 585-637 (2005)

## **6. R&D: competition and monopoly**

**T** 10

Belleflamme and Peitz, ch. 18 and 19

Nordhaus, “The Optimal Life of a Patent: Reply,” *AER* 62: 428-431 (1972)

Klemperer, “How Broad Should the Scope of Patent Protection Be?” *RAND* 21: 113-130 (1990)

Gilbert and Shapiro, “Optimal Patent Length and Breadth,” *RAND* 21: 106-112 (1990)

Williams, “How Do Patents Affect Research Investments?” NBER WP 23088 (2017)

Shapiro, “Antitrust Limits to Patent Settlements,” *RAND* 34: 391-411 (2003)

Hovenkamp, “The Rule of Reason and the Scope of the Patent,” *San Diego Law Review* 52: 515-554 (2015)

Heller and Eisenberg, “Can Patents Deter Innovation? The Anticommons in Biomedical Research,” *Science* 280: 698-701 (1998)

## **7. Vertical Integration**

**T** 4

Belleflamme and Peitz, ch. 17

Motta, ch. 6

Salinger, “Vertical Mergers and Market Foreclosure,” *QJE* 103: 345-356 (1988)

Nocke and White, “Do Vertical Mergers Facilitate Upstream Collusion?” *AER* 97: 1321-1339 (2007)

## **8. Two-sided markets**

Belleflamme and Peitz, ch. 22

Rysman, “The Economics of Two-Sided Markets,” *JEP* 23: 125-143 (2009)

Rochet and Tirole, “Platform Competition in Two-sided Markets,” *Journal of the European Economic Association* 1: 990-1029 (2003)



Evans and Schmalensee, "The Industrial Organization of Markets with Two-Sided Platforms," NBER Working Paper 11603 (2005)

Wright, "One-sided Logic in Two-Sided Markets," *Review of Network Economics* 3: 44-64 (2004)

Armstrong, "Competition in Two-sided Markets," *RAND* 37: 668-691 (2006)

Armstrong and Wright, "Two-sided Markets, Competitive Bottlenecks and Exclusive Contracts", *Economic Theory* 32: 353-380 (2007)

Bulow and Levin, "Matching and Price Competition," *AER* 96: 652-668 (2006)