Industrial Organization (G): 631

**Course Requirements.** Mid-term exam (30% of the grade), final exam (50%), and a short report on one of several articles that I’ll identify (20%). I reserve the right to raise your grade for exceptional class participation (measured by quality not quantity …) I will also distribute about six exercises. Work on these in groups and turn them in. The exercises do not earn formal credit, but I will use them to gauge your progress and give you feedback.

**Readings.** The text is: J. Tirole, *The Theory of Industrial Organization*, MIT Press, 1988. It provides excellent coverage of theoretical work in IO, which will be the focus of this course. You should read supplementary empirical and policy related material according to interest. Some useful books and web sites:

- Jeffrey Church and Roger Ware, *Industrial Organization: A Strategic Approach*, Irwin/McGraw-Hill 2000 (“Church & Ware”). Less advanced theoretically than Tirole, but has nice chapters on antitrust and regulation. The book is out of print (it’s been revised for the 2nd edition) but the authors have kindly let any user download for free and print 1 copy from: [http://homepages.ucalgary.ca/~jrchurch/page4/page4.html] (click on IOSA pdf)
- G. Stigler, *The Organization of Industry* (Irwin, 1968). This contains many of Stigler’s pioneering essays and gives a feel for the Chicago School analysis.
  [http://www.stern.nyu.edu/networks/site.html] (run by N. Economides; references on networks, broadly defined)

NOTE: additional readings on some topics are listed in my past syllabi. This is indicated, for example, by: “see 631 F05” where 631 is the course number and F05 is the semester and year. For more readings on antitrust and regulation see my syllabi from various years for the undergraduate course Topics in Competition & Regulation 429.

You are definitely not expected to read all the references below. They serve as a bibliography, in case you wish to pursue the topics further for your dissertation or general interest. Required readings will be noted by *. You can get many articles at [www.jstor.org] accessible for free from any GU campus computer.

Numbers in parentheses after section headings indicate approximate # of classes. We do not have time to cover all the topics—I change the menu a bit each year. Please come and see me if you have questions about the material, or want to discuss other topics.
1. **Introduction and Welfare Background**

   * Tirole, 1-14. (You may also want to skim pp. 15-51 on Theory of the Firm, though it uses many ideas that get developed only later in the book. We address some of these ideas later under Vertical Control.)


   Church & Ware 2000, Ch. 2 (The Welfare Economics of Market Power) and pp. 889-900 (succinct overview of antitrust laws in US, Canada and Europe).

2. **Monopoly: Linear Pricing**

   A. **Pricing of Single Good and Multiple Goods (Substitutes or Complements)**

   * Tirole, 65-72.


   B. **Welfare Effects: Output Distortion, X-Inefficiency (Inflated Costs), Rent-Seeking (Wasteful Struggles over Wealth Transfers)**

   * Tirole, 67 (output distortion under uniform pricing) 75–76 (cost distortion), 76-78 (rent seeking).


3. **Monopoly: Product Selection**

   A. **Quality and Number of Products – Potential Biases**

   * Tirole, 100-104 (quality choice), 104-106 (variety choice; read only until end of section 2.2, not 2.3).


   B. **Product Differentiation Models: Heterogeneous Consumers with Unit Demands**

   * Tirole, 95-97 (introduction, and vertical differentiation), 97-99 (horizontal differentiation).

   C. **Other Representations of Product Differentiation**

   Tirole, 99-100 (representative consumer with CES utility).


4. **Static Noncooperative Oligopoly: Bertrand and Cournot**

   * Tirole, 205–223 and 279-80 (Hotelling linear city; read only through the Ÿ after (7.2), ending with “result”).


   Tirole, 423-432 (review of noncooperative game theory under complete information).


   Belleflamme and Peitz, 2010, pp. 64-70 (differentiated Cournot vs. Bertrand, and strategic substitutes vs. strategic complements).

   M. Schwartz, “Differentiated Bertrand Competition and Mergers,” class notes (5 pp)
5. Welfare Tradeoffs from Entry: Fixed Costs, Asymmetries in Cost or Demand

A. The “No-Tradeoff” Case: Contestable Markets (see 631 F05, topic 5.A)

Tirole, 307–311.

B. Homogeneous Products


C. Spatial Circle Model


D. Monopolistic Competition (CES) Model

Tirole, 287-289, 298-300.

6. Innovation Incentives (see 631 F05, topic 17)

A. Incentives and Market Structure: Secure vs. Threatened Monopolist

* Tirole, 389–394.

B. Intellectual Property Rights System and Alternatives

* Tirole 399–401.
7. **Price Discrimination (4.5)**

A. **Necessary Conditions, Identification Problems, Perfect (1st-Degree) Discrimination (Monopoly)**

* Tirole, 133–137.

B. **Direct (3rd-Degree) Discrimination (Monopoly)**

* Tirole, 137-142.


C. **Indirect (2nd-Degree) Discrimination: Quantity & Quality Menus for Self-Selection (Monopoly)**

* Tirole, 142–149, 153–154 (both on quantity discrimination).
Tirole, 149–152 (quality discrimination).

D. **Unprofitable Monopoly Discrimination: Lack of Commitment, Strategic Buyers**

Tirole, 72–74, 80–86 (Coase conjecture for durable–good monopolist).

E. **Price Discrimination Under Imperfect Competition** (see 631 F05, topic 17)


* Stole (2007), see 2231-49 (Third-degree price discrimination).


Stole (2007), see 2259-62 (Intrapersonal price discrimination) and 2262-81 (Nonlinear pricing).

* Belleflamme and Peitz, 2010, ch. 9.3: 227-37 (Menu pricing under imperfect competition).


8. **Monopoly Tying and Bundling: Non-strategic Motives** (1.5)

* Tirole, 146–8 (tying-for-metering), 159–160 (bundling).

Belleflamme and Peitz, 2010, ch. 11.1: 259-69 (bundling); ch. 11.2: 269-71 (tying and metering)


M. Burstein, “The Economics of Tie-In Sales,” *REStats* 42 (1960), 68–73.


9. **Vertical Control by Unregulated & Secure Monopolist: Incentives and Methods** (4.5)

A. **Overview**

* Tirole, 169–173.


B. **Successive Monopoly and Double Marginalization**

* Tirole, 174–177.


C. **Variable–Proportions Production and Input Substitution** (also 631 F05, topic 7.D)

* Tirole, 179–181.


D. **Non-contractible “Services” and Non-Price Competition** (see 631 F05, topic 7.E)


E. Price Discrimination

F. Specialized Assets, Incomplete Contracts, Post-Contractual Opportunism (see 631 F05, topic 7.F)
* Tirole, 15–34.
Belleflamme and Peitz, 2010, ch. 17.3.4: 452-4 (exclusive contracts and investment incentives)
Church & Ware 2007, ch. 3, 69-79 (on holdups, and contracts vs. integration; read through Case Study 3.6)

G. Multilateral Vertical Relations with Lack of Commitment (see 631 F05, topic 7.G)

10. Vertical Control: Regulated Markets (see 631 F05, topic 8: 429 S03 parts I, II) (0.5)
* Church & Ware 2000, 861-877 (Regulatory Reform in Network Industries).

11. Reducing Competition by Committing to Be Tough or Soft (3)
A. Sunk Costs, Scale Economies and Entry Deterrence (see 631 F05, topic 9.A)
* Tirole, 314–323.
B. Two-Stage Games and the “Animals” Taxonomy of Strategies

- 207-8 and 323–328.

C. Maximal or Minimal Differentiation?

- 277-282 (Hotelling’s spatial model), 286-287 (factors that may cause clustering), 295, 296–298
- location choices in vertical differentiation model.

D. Tying and Bundling (see 631 F05, topic 11)

- 335-6 (summarizes Whinston) 335-6 (summarizes Matutes and Regibeau).
- Stole (2007), see 2281-6 (Bundling).
- Belleflamme and Peitz, 2010, ch. 16.3.2: 417-20 (bundling and leverage of market power).

E. Some More Examples: Softening Competition (see 631 F05, topic 9.C)


F. Predation: A Closer Look (see 631 F05, topic 9.D)

- Church & Ware 2000, Ch. 21—Exclusionary Strategies II: Predatory Pricing.
- Ordover and G. Saloner, “Predation, Monopolization and Antitrust,” HIO Vol 1, 537-596.
12. Vertical Control: Rent Extraction and Reducing Competition

A. Exclusivity Contracts with Single Buyer: Rent Extraction with Linear vs. Nonlinear Pricing


Tirole, 196-8 (summarizing Aghion and Bolton, AER 1987).

B. Exclusionary Contracts with Non-coordinating Buyers: Scale Economies and Other Externalities

* M. Schwartz and D. Vincent 2008, section 5 (pp. 959-56) and Appendix (pp. 973-6).
J. Wright, “Exclusive Dealing and Entry, when Buyers Compete: Comment,” AER 99 (2009), 1070-81.

C. Impeding Rivals’ Access to Inputs or Complements (see 631 F05, topics 10.C & D)

* Tirole, 193–196.


D. Network Effects and Compatibility / Interconnection (see 631 F05, topic 12)

* Tirole, 404–9.


**E. Vertical Integration**

* Belleflamme and Peitz, 2010, ch. 17.4: 454-65 (Vertical mergers and oligopoly)

**F. Coaxing Competitors to Raise Prices**

Belleflamme and Peitz, 2010, ch. 17.2.2: 440-3 (exclusive territories).

**13. Some Demand Complementarities**

**A. Switching Costs and Aftermarkets** (see 631 F05, topic 13)

**B. Two-Sided Markets**

14. **Cooperation Among Competitors on Inputs or Standards** (see 429 S11 topic 12)


15. **“Bidding” for Market Power: Preemption and Horizontal Mergers**

A. **Preemption and the Persistence of Monopoly**

Tirole, 346–352 (preemption in spatial models).


B. **Horizontal Merger Incentives** (see 631 F05 topic 14.B)


16. **Repeated Interactions and Collusion** (see 631 F05 topic 15; 429 S11, topic 5)

Tirole, 239–243.

Church & Ware 2000, Ch. 10.

Tirole, 245–51, 268–70, 431–2 (Supergames with “Almost Perfect” Information); 251-252, 263-365 (imperfect detection)


17. **Horizontal Concentration, Market Power, and Antitrust Policy**

(see 631 F05 topic 16; 429 S08, topic 4; 429 S11, topic 4)