

Bavarian Summer School

Theoretical IO - Syllabus

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August 11th - 16th, 2013

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Description

This course is a fast paced overview of Theoretical IO. It is intended for graduate students with foundations in Microeconomics and Game Theory. The focus of the course is to cover the most important topics in IO, understanding the intuition behind most theoretical results and understanding how to apply them in other contexts. It does not cover in detail all of IO, but focuses more on the intuition of the main results and the key assumptions required for such results. It does not provide a full characterization of the results, which is left to the students to learn from the original literature or to learn from a more focused IO course. It also does not cover all topics in IO, among which are Regulation, Platforms, and Networks.

This course is very useful for students who have not yet decided what subfield to specialize and are looking to get an understanding of IO. It is useful to students who have decided on a subfield, whos subfield is not IO, and are looking to broaden their economics background with an introductory course in IO. Finally, it is also very useful for students who will continue on into industry, as it provides strong foundations for developing sound strategies in a business environment. For students who want to specialize in the field of IO, this is an introductory course and does not cover topics in sufficient depth so as to provide the student with a strong understanding of IO. It does, however, point out the references where the student could obtain such depth of knowledge.

Schedule

This course goes Monday through Friday. The daily schedule is as follows:

9:00 - 10:20	Lecture I
10:20 - 10:40	Coffee Break
10:40 - 12:00	Lecture II
12:00 - 13:00	Lunch
13:00 - 14:15	Problem Sets (Individual work)
14:15 - 14:20	Break
14:20 - 15:20	Review of Problem Sets
15:20 - 15:40	Coffee Break
15:30 - 17:00	Lecture III

Course Outline

Monopoly Theory

Lecture 1: Introduction to Monopolies

Demand curves derived from consumer utility

Consumer Surplus

Marginal Revenue curves

Price/Quality tradeoffs

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Lecture 2: Comparative Statics

The Implicit Function Theorem
Introduction to Supermodularity

Lecture 3: Price Discrimination

1st and 3rd degree.
2nd Degree: Quantity Discrimination: Continuum of Types; Bundling
2nd Degree: Quality Discrimination

Lecture 4: Durable and Experience Goods

Durable Goods: Pricing, Incentives to affect durability
Experience Goods: Both sides have asymmetric information
Experience Goods: Only consumers have asymmetric information

Oligopoly - Short Run Analysis

Lecture 5: Bertrand vs Cournot

Reaction Curves and Equilibrium
Bertrand Pricing - equilibrium
Cournot Output setting - equilibrium

Lecture 6: Bertrand vs Cournot II

Welfare
Horizontal Mergers

Lecture 7: Capacity Constraints and Bertrand Pricing

Capacity game followed by Pricing Games
Rationing Rules

Lecture 8: Strategic Complements vs Strategic Substitutes

Strategic interaction with joint economies and joint diseconomies
Multi Market Contact

Spatial Competition

Lecture 9: Horizontal Differentiation

The Linear City Model - Pricing and Location Choice
The Circular City Model
Spatial Preemption

Lecture 10: Vertical Differentiation

Pricing
Location Choice

Oligopoly - Long Run Analysis

Lecture 11: Exogenous and Endogenous Entry

Exogenous Entry Costs
Investments in Quality and Endogenous Entry Costs

Lecture 12: Entry Deterrence

The Stackelberg Game
Spence-Dixit Model
Bundling for Entry Deterrence

Vertical Relationships

Lecture 13: Double Marginalization

Ustream/Downstream
Price Controls and Two-Part Tariffs
Complementary Goods

Lecture 14: Foreclosure (Vertical Restraints)

Foreclose Downstream
Foreclose Upstream

Cartel Theory

Lecture 15: Cartel Formation

Pro-cyclical prices: Green-Porter trigger strategies
Counter-cyclical prices: Rotemberg & Saloner
Multimarket Contact and Collusion

References / Readings

Main Reference:

J. Tirole, 1988, *The Theory of Industrial Organization*, The MIT Press, 16th Edition

Additional Book References:

R. Schmalensee and R. Willig, eds.; 1989. *Handbook of Industrial Organization*, Elsevier

Lecture 1: Introduction to Monopolies

X. Vives, 1999. *Oligopoly Pricing: Old Ideas and New Tools*, Cambridge: MIT Press
P. Joskow, 2007. *Regulation of Natural Monopolies*. in the Handbook of Law and Economics, P.A. Mitchell & S. Shavell eds., Elsevier
W. J. Baumol & D. Bradford. 1970. *Optimal Departures from Marginal Cost Pricing*. AER
F. Ramsey 1927. *A Contribution to the Theory fo Taxation*. EJ

Lecture 2: Comparative Statics

R. Vohra, 2004. *Advanced Mathematical Economics*, Routledge
W. Rudin, 1953, *Principles of Mathematical Analysis*, McGraw-Hill, 3rd Edition

Lecture 3: Price Discrimination

P. Bolton & M. Dewatripont, 2005. *Contract Theory*, MIT Press
K. Corts, 1998. *Third Degree Price Discrimination in Oligopoly: All-Out Competition and Strategic Commitment*. RJE
J. Dana, 1998. *Advance Purchase Discounts and Price Discrimination in Competitive Markets*. JPE
D. Spulber, 1989. *Product Variety and Competitiive Discounts*. JET

Lecture 4: Durable and Experience Goods

J. Bulow, 1986. *Durable Goods Monopolists*. JPE
I. Hendel & A. Lizzeri, 1999. *Infering with Secondary Markets*. RJE
P. Bolton & M. Dewatripont, 2005. *Contract Theory*, MIT Press
P. Milgrom & J. Roberts, 1986. *Prices and Advertising Signals of Products Quality*. JPE
M. Spence, 1977. *Job Market Signalling*. QJE.

Lecture 5: Bertrand vs Cournot

X. Vives, 1999. *Oligopoly Pricing: Old Ideas and New Tools*, Cambridge: MIT Press

Lecture 6: Bertrand vs Cournot II

M. Whinston, 2006. *Lectures on Antitrust Economics*, Cambridge: MIT Press
J. Farrell & C. Shapiro, 1990. *Horizontal Mergers: An Equilibrium Analysis*. AER

Lecture 7: Capacity Constraints and Bertrand Pricing

D. Kreps & J. Scheinkman, 1983. *Quantity Precommitment and Bertrand Competition Yield Cournot Outcomes*. BJE
C. Davidson & R. Deneckere, 1986. *Long Term Competition in Capacity, Short Run Competition in Price, and the Cournot Model*. RJE

Lecture 8: Strategic Complements vs Strategic Substitutes

J. Bulow, J. Geanakoplos, & P. Klemperer, 1985. *Multimarket Oligopoly: Strategic Substitutes and Complements*, JPE
D. Fudenberg & J. Tirole, 1984. *The Fact Car Effect, The Puppy Dog Ploy, and the Lean-and-Hungry Look*, AER

Lecture 9: Horizontal Differentiation

H. Hotelling, 1929. *Stability in Competition*. EJ
S. Salop, 1979. *Monopolistic Competition with Outside Goods*. BJE
C. d'Aspremont, J. Gabszewicz, & J. F. Thisse. 1979. *On Hotelling's Stability in Competition*. EMA
Eaton & Lipsey, 1975. *The Principle of Minimum Differentiation Reconsidered: Some New Developments in the Theory of Spatial Competition*. ReStud

Lecture 10: Vertical Differentiation

J. Gabszewicz & J. F. Thisse. 1979. *Price Competition, Quality, and Income Disparities*. JET
J. Gabszewicz & J. F. Thisse. 1980. *Entry and Exit in a Differentiated Industry*. JET
M. Spence, 1977. *Non-Price Competition*. AER

Lecture 11: Exogenous and Endogenous Entry

J. Sutton, 1991. *Sunk Costs and Market Structure*, The MIT Press, 5th Edition
A. Shaked & J. Sutton, 1990. *Multiproduct Firms and Market Structure*, RJE

Lecture 12: Entry Deterrence

H. von Stackelberg. 1934. *Marktform und Gleichgewicht*. Vienna: Julius Spinger
M. Spence, 1984. *Cost Reduction, Competition, and Industry Performance*, EMA
A. Dixit, 1980. *The Role of Investment in Entry Deterrence*, EJ
D. Fudenberg & J. Tirole, 1983. *Capital as Commitment: Strategic Investments to Deter Mobility*, JET
M. Whinston, 1990. *Tying, Foreclosure, and Exclusion*. AER

Lecture 13: Double Marginalization

J. Spengler, 1950. *Vertical Integration and Anti-Trust Policy*. JPE

Lecture 14: Foreclosure (Vertical Restraints)

M. Whinston, 2006. *Lectures on Antitrust Economics*, Cambridge: MIT Press
R. H. Bork 1978. *The Anti-Trust Paradox: A Policy at War With Itself*. New York: Basic Books
P. Aghion & P. Bolton, 1987. *Contracts as a Barrier to Entry*. AER
I. Segal & M. Whinston, 2000. *Naked Exclusion: A Comment*. AER

Lecture 15: Cartel Formation

E. Green & R. Porter, 1984. *Non-cooperative Collusion Under Imperfect Price Information*. EMA
D. Abreu, D. Pearce, & E. Stachetti, 1986. *Optimal Cartel Equilibria with Imperfect Monitoring*. JET
D. Abreu, D. Pearce, & E. Stachetti, 1986. *Towards a Theory of Discounted Repeated Games with Imperfect Monitoring*. EMA
J. Rotemberg & G. Saloner, 1986. *A Supergame-Theoretic Model of Pricare Wars During Booms*. AER
D. Bernheim & M. Whinston, 1990. *Multimarket Contact and Collusive Behavior*. RJE

Excercise / Homeworks

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