

# MICROECONOMICS I

## B

Sponsored by a Grant TÁMOP-4.1.2-08/2/A/KMR-2009-0041

Course Material Developed by Department of Economics,

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June 2010



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# Syllabus

### **Course content and readings:**

- Book: Jack Hirshleifer, Amihai Glazer, David Hirshleifer (2005): Price theory and applications. 7<sup>th</sup> edition, Cambridge University press, chapters 1–8, 12. and 13. (henceforth Hirshleifer)
- Recommended reading and task books:
  - Hal R. Varian: Intermediate Microeconomics (1999). W. W. Norton & Company; 5th edition
  - Theodore Bergstrom, Hal R. Varian (2010) Workouts in Intermediate Microeconomics, W. W. Norton & Company; 8th edition

### **Course content:**

#### **1<sup>st</sup> week:**

**1<sup>st</sup> class:** *The nature and scope of economics* (revision and systematization of the basic concepts of economics based on the “Introduction to economics” subject)

What is microeconomics, Descriptive and normative analysis. Rationality. Scarcity. Individual decision making and societal behavior. Notion of the market. (Hirschleifer, 1<sup>st</sup> chapter). List of topics to be covered during the semester.

**2<sup>nd</sup> class:** *Working tools I.*

Modeling and mathematical models. Variables (endogenous variables), parameters (exogenous variables) and the role of functions. The model of supply and demand (mathematical representation, defining and analyzing the equilibrium, comparative static, change in parameters in general and due to government intervention. Taxes, quotas, price ceiling etc.) Mathematical representation and interpretation. (Hirshleifer 2<sup>nd</sup> chapter)

**2<sup>nd</sup> week:****1<sup>st</sup> class:** *Working tools II.*

The model of supply and demand (contd.) Modeling of different markets (defining a market, isolated markets, relation of markets, difference between the general and the partial equilibrium) Relationship between macro- and microeconomics. (Hirshleifer 2<sup>nd</sup> chapter)

**2<sup>nd</sup> class:** *Working tools III.*

Individual decision based societal behavior Finding an optimum. Average and marginal quantities. (Hirshleifer 2<sup>nd</sup> chapter)

**3<sup>rd</sup> week:****1<sup>st</sup> class:** *Consumer theory I.*

Preferences (notion of preference ordering, understanding axioms, notion of goods, geometric representation). Representing preferences with utility functions. Ordinal and cardinal utility. Utility function as a multivariable function. Notion, origin and understanding of marginal utility. Notion, origin and understanding of indifference curves and their characteristics. (Hirshleifer 3<sup>rd</sup> chapter)

**2<sup>nd</sup> class:** *Consumer theory.*

Preferences and utility (contd.) Special preferences. Mathematical consequences. Characteristics of goods (classifying goods). Origin of preferences and utility, how we measure them? (Hirshleifer 3<sup>rd</sup> chapter)

**4<sup>th</sup> week:**

**1<sup>st</sup> class:** *Consumer theory III.*

Consumption optimum. Budget constraint. Role of variables and parameters. A heuristic approach to consumer optimum. Geometric depiction (relation of convexity with necessary and sufficient conditions, problem of corner solutions and their economic interpretation). (Hirshleifer 4<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Consumer theory IV.*

Conditions for consumer optimum using cardinal or ordinal utility functions. (Hirshleifer 4<sup>th</sup> chapter)

**5<sup>th</sup> week:**

**1<sup>st</sup> class:** *Consumer theory V.*

Finding the optimum, multiple methods, “normal” utility curves (Hirshleifer 4<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Consumer theory VI.*

Finding the optimum, multiple methods, complementary goods and substitutes, other special cases (Hirshleifer 4<sup>th</sup> chapter)

**6<sup>th</sup> week:****1<sup>st</sup> class:** *Consumer theory VII.*

Individual and market demand. Consumer behavior under changing circumstances. Modeling questions: role of variables and parameters. The Income Expansion Path, the Engel curve, Price Expansion Path, Demand curve (Hirshleifer 4<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Consumer theory VIII.*

Income and substitution effect of a price change. Problem of decomposition, different approaches. Separation of effects and classification of goods. (Hirshleifer 4<sup>th</sup> chapter)

**7<sup>th</sup> week:****1<sup>st</sup> class:** *Consumer theory IX.*

Income and substitution effects of price change (contd.). Aggregating individual demands, market demand (Hirshleifer 4<sup>th</sup> chapter) Demand theory, contd. Notion of elasticity. Income and price elasticity. (Hirshleifer 5<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Consumer theory X.*

Demand curve and elasticity. Classifying goods based on demand. Empirical possibilities of defining a demand curve. Other empirical examples. (Hirshleifer 5<sup>th</sup> chapter)

**8<sup>th</sup> week:****1<sup>st</sup> class:** *Production theory I.*

Firm as a unit of decision making. Entrepreneur, owner, manager. Microeconomic notion of firm. Profit, revenue and costs. Types of costs, cost curves. (Hirshleifer 6<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Production theory II.*

The optimal decision of the firm. The shutdown decision. Division of outputs among plants. (Hirshleifer 6<sup>th</sup> chapter)

**9<sup>th</sup> week:**

**1<sup>st</sup> class:** *Production theory III.*

Cost functions: short and long run. Effects of economies of scale on the optimal decision. Application: peak and off peak operation. (Hirshleifer 6<sup>th</sup> chapter).

**2<sup>nd</sup> class:** *Perfect competition I.*

Equilibrium on the competitive markets. Supply function on the short and long run. External economies and diseconomies. (Hirshleifer 7<sup>th</sup> chapter)

**10<sup>th</sup> week:**

**1<sup>st</sup> class:** *Perfect competition II.*

Equilibrium on the competitive market (contd) Firm survival and the zero profit theorem. Benefit of exchange: consumer and producer surplus. Welfare effects of state interventions: taxes, quotas and price setting (Hirshleifer 7<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Monopoly I.*

Optimal decision of monopolies. Decision under linear demand. Relation of the optimum and the price-elasticity of demand. Hirshleifer 8<sup>th</sup> chapter)

**11<sup>th</sup> week.****1<sup>st</sup> class:** *Monopoly II.*

Monopoly vs. perfect competition. Applications. Monopoly and social welfare: analysis of welfare effects. Regulation of monopolies. (Hirshleifer 8<sup>th</sup> chapter, but chapter 8.4)

**2<sup>nd</sup> class:** *Demand for factor services and distribution of income I.*

Demand for factor services. Production and factor employment with a single variable input. The notion of production function. Diminishing returns reconsidered and its relation to the production function. The notion of marginal product. Relation of production functions and cost functions. Relation of cost minimization and profit maximization. Demand for a single factor service. (Hirshleifer 12<sup>th</sup> chapter)

**12<sup>th</sup> week:****1<sup>st</sup> class:** *Demand for factor services and distribution of income II.*

Production and factor employment with several variable inputs. Multivariate production functions, isoquants, marginal products, geometric representation and function analysis. Finding the optimal input usage. Relation with cost functions. Duality. (Hirshleifer 12<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Demand for factor services and distribution of income III.*

Industry's demand for inputs. Competitive factor market and monopsony. Welfare questions. Application: labor market and minimum wage regulations. (Hirshleifer 12<sup>th</sup> chapter)

**13<sup>th</sup> week:****1<sup>st</sup> class:** *Demand for factor services and distribution of income IV.*

Resource supply and factor market equilibrium. Optimum of resource

owners. Income and price expansion path on the labor market. Application: the incentive effects of welfare and social security. (Hirshleifer 13<sup>th</sup> chapter)

**2<sup>nd</sup> class:** *Demand for factor services and distribution of income V.*

Individual factor supply and market factor supply. Equilibrium on the factor service market. Application: sources of wage inequalities. (Hirshleifer 13<sup>th</sup> chapter, except 13.2) Summary.