

BROWN UNIVERSITY

Econ 111 (S03): Intermediate Microeconomics – Syllabus

Spring 2010

Ec111 focuses on the core part of the microeconomics with the emphasis on 1) the development of analytical tools and the understanding of how the theories are constructed and 2) the working and failure cases of the market system. Microeconomic theories can not be effectively understood without mathematics. Be familiar with calculus and optimization methods. TA conference sections will review them.

Instructor : Professor A. Yasuhara

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Office hours: Mondays and Wednesdays, 12:20 p.m. to 1:30 p.m., or by appointment.

Class Meetings of S03 : M.,W.,F, 11:00–11:50 a.m. in Kassar House Fox

Exam: Group 04 – Thursday, May 13, 2010, from 9:00 a.m.

Teaching Assistants : Sailesh_Tiwari@brown.edu

Conference meetings:

C3A: Tuesday 12:00 noon–12:50 pm in Wilson Hall 309

C3B: Tuesday 7:00 pm–7:50 pm in Wilson Hall 309

TA conference meetings will start in the second week on Tuesday February 2.

Textbook and Reading Materials (all required):

Hal Varian (2006), *Intermediate Microeconomics* (the 7th edition)

Lecture notes and homework sets on our Course Web Page at:

<http://mycourses.brown.edu>

Other reading materials (for future reference):

Dixit, Avinash, and Barry Nalebuff (1991), *Thinking strategically*.

Friedman, Milton.(1962), *Capitalism and freedom*.

Friedman, Milton.(1975), *There's no such thing as a free lunch*.

Horwitz, Morton J. (1977, 1992), *The transformation of American law*, Volume 1 and 2.

Kreps, David M. (1990), *Game theory and economic modeling*.

Mercuro, N., and S.G. Medema (1997), *Economics and the Law: from Posner to Post-Modernism*.

North, Douglass C., and R.D. Thomas (1973), *The rise of the western world: a new economic history*.

Sachs, Jeffrey (1994), *Poland's jump to the market economy*.

Thaler, Richard H. (1994), *The Winner's Curse: Paradoxes and Anomalies in Economic Life*.

Williamson, O.E., and S.G. Winter ed.(1993), *The Nature of the Firm*.

Varian, Hal R., J. Farrell, and C. Shapiro (2004), *The Economics of Information Technology*.

Grading Rules:

The course grade will be decided based upon the student's performance on one midterm examination, the final examination and homework problems. Homework sets count for 30 percent of the course grade, the midterm exam counts for 30 percent of the grade, and the final exam counts for the remaining 40 percent of the grade. To assure an "A"(or "B") for the course, show a 90(80, respectively)-percent-or-above performance. The weighted-average score below 65% will receive a "NC."

Auditing – The auditing student must complete all homework assignments and show the minimum 65 percent grade on homework.

Homework – Homework sets are on our course web-page for download. They are in the 'pdf' format. Print them out to write your answers on them. Homework is essential for (1) confirming your understanding of the course materials, (2) testing your ability to apply analytical skills to cases different from lectures. and (3) the preparation for the exams.

Homework problems must be solved by yourself without any help from anyone else. The due date for each homework will be announced in class. The due date shall be strictly enforced. Do not ask your friend

to hand in your homework. If you will be absent from the class meeting due to unavoidable reasons, hand in homework by e-mail attachment. Your TA will discuss homework answers in the TA sections.

Exams – The dates of the exams:

Midterm exam: Monday, March 8 (in class, 50 minutes)

Final exam: Thursday, May 13, 9:00am - 11:10am

Course Outline

Introduction

1. Introduction (chapter 1)
 - a. What is microeconomics
 - b. Conditions for the ideal market system
 - c. A glance at Pareto optimality
2. Math review in TA sections (Mathematical appendix at the end of the textbook)

Part I. The Consumer

1. Preference and the utility function (chapter 3 and 4)
 - a. preference: complete ordering
 - b. indifference curves
 - c. the marginal rate of substitution (MRS)
 - d. complements and substitutes
 - e. construction of a utility function
 - f. the marginal utility and the MRS
2. The budget constraint (chapter 2)
 - a. Income and the market trade-off
 - b. tax, subsidy, quantity discounts, etc
3. Utility maximization under the budget constraint (chapters 5 and 6)
 - a. demand functions
 - b. the impacts of an income change and price changes
 - c. the indirect utility function and the marginal utility of income
 - d. the ideal price indexes.
4. The Slutsky decomposition and the consumer's surplus (chapters 8 and 14)
 - a. the income effect and the substitution effect
 - b. the consumer's surplus
5. Initial endowments and the offer curve (chapter 9)
 - a. Income from initial endowments
 - b. the offer curve
 - c. Impacts of price changes
 - d. labor-leisure choice
6. The market for Pure exchanges (chapter 31)
 - a. the Edgeworth box diagram
 - b. the Pareto optimality
 - c. blocking coalition and the core of the economy
 - d. the competitive market equilibrium

Part II. Inter-temporal Choice and Uncertainty

1. Certainty case (chapter 10)
 - a. the budget constraint revisited
 - b. the interest rate and the present value
2. Uncertainty and the expected utility (chapter 12)
 - a. uncertainty tree
 - b. risk and risk aversion
 - c. insurance and gambling
 - d. state-contingent claims

Part III. The Production

1. The production technology (chapter 18)
 - a. the production function
 - b. the marginal productivity and the returns to factor
 - c. returns to scale
2. The producer behavior (chapters 19, 20, 21 and 22)
 - a. cost minimization in the short-run and in the long-run
 - b. the total, average cost, and marginal cost curves
 - c. profit maximization under competition: $P = MC$
 - d. the supply function
 - e. the producer's surplus

Part IV Competitive Market Equilibrium

1. Market demand and market supply (chapters 15 and 23)
2. Competitive-market equilibrium (chapter 16)
 - a. the short-run equilibrium
 - b. taxes and regulations
 - c. the long-run equilibrium
3. Pareto optimality: the fundamental theorems of the welfare economics (chapter 32)
 - a. optimal configuration of production processes
 - b. optimal allocation of outputs
 - c. optimal mix of different outputs

Part V. Game Theory and Non-Competitive Market

1. The theory of non-cooperative games (chapters 28 and 29)
 - a. players, information, strategies and payoffs
 - b. various types of games: prisoner's dilemma, battle of sexes, etc.
 - c. equilibrium concepts: Nash, (iterated) dominant-strategy, and sub-game perfect
 - d. pre-game communication: commitment and threat
 - e. questions regarding rationality
2. Monopoly and Natural Monopoly (chapters 24 and 25)
 - a. the marginal revenue
 - b. natural monopoly
 - c. dead-weight welfare loss
 - d. contestable market
3. Duopoly and oligopoly (chapter 27)
 - a. the Cournot model and the Stackelberg model
 - b. the Bertrand model
 - c. other conjectures
 - d. entry-prevention strategies and contestable markets

Part VI. Market Failure

1. External economy and dis-economy (chapter 34 and 35)
 - a. the social marginal cost v. the private marginal cost
 - b. possible remedies
 - c. network externality
2. Public goods (chapter 36)
 - a. the free-rider problem
 - b. the social-optimal condition
 - c. preference-revealing mechanisms: the Lindahl, Tideman-Tullock, and Groves mechanisms.
- d. Asymmetric information (chapter 37)
 - a. the market for lemons
 - b. moral hazard
 - c. adverse selection
 - d. signaling

Part VII. Other Topics (if time allows)

1. Arrow's impossibility theorem (chapter 33)
2. Behavioral economics (chapter 30)
3. Network economics.