

BROWN UNIVERSITY

Econ 111 Intermediate Microeconomics

Fall 2006

“Tools for use in microeconomic analysis, with some public policy applications. Theory of consumer demand, theories of the firm, market behavior, welfare economics, and general equilibrium. Prerequisite: MA 6, 7 or 9 or equivalent; and EC 11 or advanced placement.” (from the BOCA course bulletin)

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 (differentiation and partial differentiation) and optimization methods. TA conference sections will review them.

Instructor: Professor A. Yasuhara

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Office hours: Tuesdays, from 10:30AM to 11:30AM

Thursdays, from 1:30PM to 2:20PM, or by appointment.

Teaching Assistants:

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TA conference meetings will start in the second week.

Class meetings:

Professor Yasuhara's Ec111 has two sections each of which has two TA conference meetings. The student must go to the registered section and TA conference. The sections and conference meetings are:

S02 T.,Th. 9:00-10:20 AM in Rhode Island Hall - 201

Exam Group 08 (9 a.m., Thursday. 12/14/2006)

C03 T. 12:00-12:50 PM Smith-Buonanno - 201

C04 T. 7:00- 7:50 PM Wilson Hall - 205

S03 T.,Th. 2:30- 3:50 PM in Rhode Island Hall - 201

Exam Group 11 (2 p.m., Tuesday. 12/19/2006)

C05 W. 12:00-12:50 PM Pembroke Hall - B2

C06 W. 7:00- 7:50 PM Wilson Hall - 205

There will be class meeting on Tuesday, November 21 (a day before the Thanksgiving recess). There will be a class meeting on Thursday, December 7 (the first day of the reading week).

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*.

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)

Grading rules:

The course grade will be decided based upon the student's performance on one midterm examination, the final examination and homework problems. The 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.

Auditing students must complete all homework assignments and show the minimum 60 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 (both sections): Thursday, October 19

Final exam:

Section 02: Thursday, December 14, from 9AM to 11:10AM

Section 03: Tuesday, December 19, from 2:00PM to 4:10PM

Academic Calendar – Semester I 2006-07

August 1 Tuesday. Last day for payment of charges.

August 30 Wednesday. Beginning of Orientation.

Aug 30-Sept 1 Wednesday through Friday. Registration of graduate students.

September 5 Tuesday. Classes of the first semester begin. Instructor's signature is required to add a course.

Opening Convocation: 12:00 Noon.

September 13 Wednesday. First day to register for a RISD course.

September 18 Monday. Last day to add a course without a fee.

September 20 Wednesday. Last day to register for a RISD course without a fee.

October 2 Monday. Last day to add a course, change from audit to credit or to change a grade option.

October 9 Monday. Columbus Day Holiday. No University exercises.

October 20 Friday. Mid-semester deadline. Last day to change from credit to audit in a course. Last day to request a Course Performance Report.

Oct 23-Nov 3 Monday through Friday. Registration for Semester II. (Note: No student will be permitted to register for his or her fifth semester unless a declaration of concentration has been filed.)

November 3 Friday. End of pre-registration period. Last day for students planning to graduate in May to declare a second concentration.

November 8 Wednesday. Deadline for submission of proposals for undergraduate group study projects (GISPs) for Semester II.

Nov 22-26 Wednesday noon to Sunday. Thanksgiving recess.

November 27 Monday. Classes resume.

December 1 Friday. Deadline for declaring a leave for Semester II or to confirm readmission for Semester II.

December 2 Saturday. Mid-year Completion Celebration.

December 7-11 Thursday through Monday. Reading Period (optional and at the discretion of the instructor).

December 8 Friday. Last day of RISD courses. (RISD final studio reviews and exams: December 11-15.)

December 11 Monday. Classes end for courses not observing the Reading Period. Last day to drop a course or to file for an incomplete.

Dec. 12-20 Tuesday through Wednesday. Final Examination Period.