

Revised 04/13/2007

UNIVERSITY OF HAWAI‘I AT MĀNOA
DEPARTMENT OF ECONOMICS

ECON 606
Microeconomic Theory I

Fall 2007
Lecture: MW 9:00-10:15 AM
Room: Saunders Hall 244

Instructor: Gerard “Jerry” Russo
Office Hours: MW 10:30-11:30 AM
or by appointment
Office: Saunders Hall (SAUND) 515B
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Teaching Assistant/Grader: TBA
E-mail: TBA
Office Hours: TBA
Office: TBA
Phone: TBA

COURSE DESCRIPTION: This is a first course in partial equilibrium microeconomic analysis. As such, this course focuses on mathematical models of individual economic behavior. Primary emphasis is on the most basic static full-information models. All models will rely on an assumption of either equilibrium or optimization to render soluble form. Topics include: theory of the firm - production, costs, profit maximization, cost minimization and duality; theory of the market - perfect competition, monopoly, oligopoly, and monopolistic competition; and theory of the consumer - preferences, expenditures, utility maximization, expenditure minimization and duality. Additionally, some topics in uncertainty and information theory, including expected-utility theory, moral hazard, and adverse selection will be presented. This course will rely on problem solving as the primary instructional technique.

COURSE OBJECTIVES: The course objectives are threefold: first, to present a rigorous mathematical treatment of fundamental microeconomic theory with emphasis on static partial equilibrium analysis; second, to train students to construct and analyze mathematical models of individual economic agents; and third, to demonstrate the useful application of these models to a wide variety of public policy issues, including but not limited to, regulation, taxation, and insurance. The overall and ultimate objective is to prepare the students for advanced field courses and independent research.

PREREQUISITES: Calculus, Intermediate Microeconomics

CO-REQUISITE: ECON 627.

TEXTS:

Jehle, Geoffrey A., and Philip J. Reny (2000), *Advanced Microeconomic Theory*, 2nd ed., (Reading, MA: Addison-Wesley). required. ISBN10: 0321079167.

Silberberg, Eugene and Wing Suen (2000), *The Structure of Economics: A Mathematical Analysis*, 3rd ed., (New York: Irwin/McGraw-Hill). required. ISBN10: 0072343524.

Varian, Hal R. (1992), *Microeconomic Analysis*, 3rd ed., (New York: Norton). required. ISBN10: 0393957357.

For errata see link below.

<http://www.sims.berkeley.edu/~hal/people/hal/Errata/errata-ma.html>

Mas-Collell, Andreu, Michael D. Whinston and Jerry R. Green (1995), *Microeconomic Theory*, (New York: Oxford University Press). required. ISBN10: 0195073401.

Cornes, Richard (1992), *Duality and Modern Economics* (Cambridge: Cambridge University Press). optional.

Chiang, Alpha C. and Kevin Wainwright (2005), *Fundamental Methods of Mathematical Economics*, 4th ed., (New York: McGraw-Hill Irwin). optional.

Varian, Hal R. (2006), *Intermediate Microeconomics: A Modern Approach*, 7th ed., (New York: Norton). optional.

Bergstrom, Theodore C., and Hal R. Varian (2006), *Workouts in Intermediate Microeconomics*, 7th ed., (New York: Norton). optional.

Takayama, Akira (1985), *Mathematical Economics*, 2nd ed., (Cambridge: Cambridge University Press). optional.

GRADE DETERMINATION:	Homework	10%
	Mid-Term Exam	40%
	Final Exam	<u>50%</u>
	TOTAL	100%

EXAMINATION DATES:

Mid-Term Exam — Wednesday, October 3, 2007, 3:30-4:45 PM

Final Exam — Monday, December 10, 2007, 7:30-9:30 AM

SCHEDULE AND TENTATIVE TOPICS

I. INTRODUCTION

Lecture #1

Monday, August 20, 2007

Methodology

* Silberberg, Chapter 1, pp. 1-24.

Chiang, Chapter 1, pp. 3-6.

Takayama, Introduction, pp. xv-xxiii.

Varian, *Intermediate*, Chapter 1.

Bergstrom & Varian, Workout 1.

Lecture #2

Wednesday, August 22, 2007

Mathematical Preliminaries

* Jehle, Appendices A1-A2, pp. 407-512.

* Varian, 3rd ed., Chapters 26-27, pp. 473-506.

* Mas-Colell, Appendix, pp. 926-970.

* Silberberg, Chapters, 2-5, pp. 25-116.

Cornes, Chapter 1, pp. 3-28.

Chiang, Chapter 2, pp. 7-32, and
Chapters 4-5, pp. 54-124.

Takayama, Chapter 0, Section A, pp. 5-39.

Lecture #3

Monday, August 27, 2007

Introduction to Comparative Static Analysis

* indicates required reading.

Chiang, Chapter 3, pp. 35-53, Chapters 6-12, pp. 127-432, and Chapter, 14, sections 14.1-14.2, pp. 470-479.

* Silberberg, Chapters 6-7, pp. 117-174 and Chapter 18, Section 18.2, pp. 545-550.

Takayama, Chapter 1, Sections A-E, pp. 59-133 and Chapter 3, Section A, pp. 295-302.

Varian, *Intermediate*, Chapter 16.

Bergstrom & Varian, Workout 16.

II. CONSUMER THEORY * Jehle, Chapter 1, pp. 1-67, Chapter 2, Sections 2.1-2.3, pp. 69-92.

* Varian, 3rd ed., Chapters 7-9, pp. 94-159.

* Mas-Colell, Chapters 1-2, pp. 5-39, Chapter 3, Sections 3.A-3.H, pp. 40-80.

* Silberberg, Chapter 10, pp. 252-313, and Chapter 11, Sections 11.1-11.4, pp. 314-347.

Cornes, Chapters 2-4, pp. 31-103.

Takayama, Chapter 1, Section G, pp. 155-168, Chapter 2, Section B, pp.175-185, and Chapter 2, Section D, pp. 234-249.

Varian, *Intermediate*, Chapters 2-10.

Bergstrom & Varian, Workouts 2-10.

Lecture #4 Consumer Preferences
Wednesday, August 29, 2007

Lecture #5 Utility Maximization

* indicates required reading.

* Silberberg, Chapter 11, Section 11.5, pp. 347-357, and Chapter 19, Section 19.7, pp. 600-604.

Cornes, Chapter 9, pp. 204-235.

Willig, Robert D. (1976), "Consumer's Surplus Without Apology," *American Economic Review*, Vol. 66, No. 4, pp. 589-597.

* Hausman, Jerry A. (1981), "Exact Consumer's Surplus and Deadweight Loss," *American Economic Review*, Vol. 71, No. 4, pp. 662-676.

Haveman, Robert H., Mary Gabay, and James Andreoni (1987), "Exact Consumer's Surplus and Deadweight Loss: A Correction," *American Economic Review*, Vol. 77, No. 3, pp. 494-495.

* Laffont, Jean-Jacques (1988), *Fundamental of Public Economics*, (Cambridge, Massachusetts: MIT Press) Chapter 6, Section 6.1, pp.139-153.

Varian, *Intermediate*, Chapter 14.

Bergstrom & Varian, Workout 14.

Lecture #11 Partial Equilibrium Welfare Analysis (Continued)
Wednesday, September 26, 2007

Lecture #12 Partial Equilibrium Welfare Analysis (Continued)
Monday, October 1, 2007

Lecture #13 **MID-TERM EXAMINATION**
Wednesday, October 3, 2007 9:00-10:15 AM

* indicates required reading.

V. MICROECONOMIC THEORY AND ECONOMETRICS

Lecture #26 Theoretical Properties and Their Implications
Wednesday, November 21, 2007 for Empirical Analysis

* Varian, 3rd ed., Chapter 12, pp. 198-214.

* Silberberg, Chapter 11, Section 11.6, pp. 357-363.

Cornes, Chapter 8, pp. 189-203.

* Diewert, W. Erwin (1974), "Applications of Duality Theory," in: M.D. Intriligator and D.A. Kendrick, eds., *Frontiers of Quantitative Economics, Volume II*, (Amsterdam: North Holland), pp. 106-171.

VI. INTRODUCTION TO UNCERTAINTY AND INFORMATION THEORY

Lecture #27 Expected Utility Theory
Monday, November 26, 2007

* Jehle, Chapter 2, Section 2.4, pp. 92-116.

* Varian, 3rd ed., Chapter 11, pp. 172-197.

* Mas-Colell, Chapter 6, pp. 167-215.

* Silberberg, Chapter 13, pp. 394-417.

Varian, *Intermediate*, Chapter 12.

Bergstrom & Varian, Workout 12.

von Neumann, John, and Oskar Morgenstern (1944), *Theory of Games and Economic Behavior*, (Princeton: Princeton University Press), Chapter 1, Section 3, pp. 15-31.

* indicates required reading.

Lecture #28 Risk Aversion
Wednesday, November 28, 2007

* Pratt, John W. (1964), "Risk Aversion in the Small and in the Large," *Econometrica*, Vol. 32, No. 1-2, pp. 122-136.

Arrow, Kenneth J. (1971), *Essays in the Theory of Risk Bearing*, (Chicago: Markham). optional

* Rothschild, Michael L. and Joseph Stiglitz (1970), "Increasing Risk I: A Definition," *Journal of Economic Theory*, Vol. 2, pp. 225-243.

* Rothschild, Michael L. and Joseph Stiglitz (1971), "Increasing Risk II: Its Economic Consequences," *Journal of Economic Theory*, Vol. 3, pp. 66-84.

Lecture #29 Moral Hazard
Monday, December 3, 2007

Varian, *Intermediate*, Chapter 36.

Bergstrom & Varian, Workout 36.

* Pauly, Mark V. (1974), "Overinsurance and Public Provision of Insurance: The Roles of Moral Hazard and Adverse Selection," *Quarterly Journal of Economics*, Vol. 88, No. 1, pp. 44-62.

Arnott, Richard and Joseph Stiglitz (1990), "The Welfare Effects of Moral Hazard," in : Henri Loubergé, ed. *Risk, Information and Insurance* (Boston: Kluwer), pp. 91-121.

Arnott, Richard and Joseph Stiglitz (1988), "The Basic Analytics Effects of Moral Hazard," *Scandinavian Journal of Economics* Vol. 90, No. 3, pp. 383-413.

* indicates required reading.

Lecture #30 Adverse Selection
Wednesday, December 5, 2007

Akerlof, George A. (1970), "The Market for 'Lemons':
Qualitative Uncertainty and the Price
Mechanism," *Quarterly Journal of Economics*,
Vol. 84, No. 3, pp. 488-500.

* Rothschild, Michael and Joseph Stiglitz (1976),
"Equilibrium in Competitive Insurance Markets:
An Essay on the Economics of Imperfect
Information," *Quarterly Journal of Economics*,
Vol. 90, No. 4, pp. 629-650.

FINAL EXAM - Monday, December 10, 2007, 7:30-9:30 AM Saunders 244

* indicates required reading.