

**Economics 1011a
Microeconomic Theory**

**Harvard College
Fall 2007**

PROFESSOR HSUEH-LING HUYNH TEL: 617-496-5464 (Harvard)/ 617-353-6823 (BU)
EMAIL: hlhuynh@bu.edu
OFFICE HOURS MW 3:30-5PM, LITTAUER 307
LECTURES MW 2-3:30PM, JEFFERSON 250

COURSE WEBSITE <http://isites.harvard.edu/k20101>

*Students should check the website frequently for announcements, updates, and course material.

TEXT

(1) R. Preston McAfee, *Introduction to Economic Analysis (version 2.00, 2006)*

This text was first released in 2005 and has been updated. Being an 'open source', a PDF-file of the whole text can be downloaded free of charge from <http://www.introecon.com>; but be sure to observe the terms of usage. You can also order a bound paper copy for a modest printing and shipping charge.

(2) Theodore C. Bergstrom & Hal R. Varian,

Workouts in Intermediate Microeconomics (7th edition 2006), W.W.Norton

GRADE	Exam1	(10 October 2007, in class)	25%
	Exam2	(14 November 2007, in class)	35%
	Exam3	(January 2008, time and location TBA)	40%

*** No make-up exams will be given! ***

*If you think there has been a grading error or oversight in your exam, promptly bring it to the attention of your TF. If you question the grading policy itself, speak to the head TF or the professor. Beware that a lower grade may result from the re-grading of an exam.

COURSE DESCRIPTION Broadly speaking, microeconomic theory consists of the methods for understanding *economic allocations* through the analysis of *economic decisions* and *economic institutions*. It also helps us establish criteria to define and measure the *efficiency* and *equity* of economic allocations.

The most fundamental economic institution is the *market*, under conditions of *perfect and imperfect competition*. Analysis of economic decisions made in the market has allowed us to understand how prices are determined, and how that in turn determines the quantity and profile of goods that are produced and consumed, as well as the distribution of financial assets and risks in the economy. Microeconomics also provides insights into the origins and effects of monopolies, the implications of regulations and de-regulation, the organization of industries and firms, the economic functions of government, and lays the proper foundation for analyzing important issues such as corporate governance. To do so, the theory of *market equilibrium* is supplemented and extended by ideas of *game-theoretic equilibrium*.

In this course, we study *formal models* of economic decision and economic institution. We shall examine a number of assumptions that capture some basic facts about decision-makers and economic institutions, and try to derive consequences that offer economic insights. The analysis will be *rigorous* and *quantitative*; and the conclusions will greatly deepen our intuitive or preliminary understanding of the economy.

Although real world examples will be used to elucidate every topic of our discussion, the emphasis of this course is analytic. Mathematical tools will be used freely, and the student must be willing to engage in critical and logical thinking. To succeed in this course and effectively master its material, reading must be combined with active and extensive practice in problem solving and economic modeling.

To be well prepared for this course, you should have the economic knowledge taught in a standard introductory course in microeconomics, but preferably also macroeconomics; mathematically, you should be conversant with multivariate calculus and some linear algebra.

COURSE SCHEDULE See pages 3 and 4.

HEAD TEACHING FELLOW: MR. JAMES C. BURNS

EMAIL: jburns@fas.harvard.edu

OFFICE: G19 LITTAUER BASEMENT

Please contact the Head TF regarding all administrative issues related to this course.

SECTIONS AND TEACHING FELLOWS

Although not mandatory, you are strongly encouraged to sign up for a section, in which a TF will conduct a weekly one-hour discussion to go over questions arising from the homework and lectures. You should contact your own TF (not Mr. Burns or HLH) regarding any technical question on the course material. The TFs will also correct select homework problems if you submit them on time. (But no course grade will be awarded directly for the homework problems.)

Times and locations of the sections, the TFs' names, their contact information and office hours, as well as sign-up procedure and deadline, are announced on the course website.

H.-L. H.'S OFFICE HOURS

Except for purely technical questions from the homework and exams, you are welcome to HLH's office hours to discuss problems, ideas and interests in economics inspired by this course. You should of course also speak to the professor about concerns that you feel he should and can address. No further appointment is necessary if you come on MW 3:30-5pm (except holidays).

LUNCH GATHERINGS

Professor Jeffrey Miron will host the Econ.DUS table in the Small Dinning Room at Lowell House on Mondays 12-2pm during the Fall semester (except holidays), starting on M9/24. Students of Economics 1011a are welcome at the table subject to space constraints, and HLH will be there on certain Mondays. No reservation is required at this time. Should further coordination become necessary, it will be announced on the course website.

COURSE SCHEDULE (Details of the schedule are subject to change; check announcements in class and on the course website.)

- ◆ LECTURE complements READING and problem solving. They are not substitutes; and the lectures do not adhere to the order of topics in the text.
- ◆ READINGS are specified by the chapter and section numbers in McAfee's text. ("1" means all of chapter 1, "6.1-2" means sections 6.1 and 6.2, and "5.2.1-7" means subsections 5.2.1 through 5.2.7.) Further reading may be suggested from time to time.
- ◆ HOMEWORK is not directly awarded any course grade, but only by solving problems can you effectively master the course material.
Basic exercises are taken from McAfee's text and the Bergstrom-Varian Workouts. These include all the EXERCISES in McAfee's text under the sections assigned for reading, plus the WORKOUTS PROBLEMS assigned below. ("1.1-5" means problems 1.1, 1.2,... and 1.5 in the Workouts.) If you do not get the right answers on your first attempt, try some of the remaining problems from the Workouts.
In addition, there are 5 PROBLEMS SETS consisting of longer, more challenging, or more open-ended problems. They will be posted on the course website.
- ◆ SOLUTION to the homework and exams will be posted on the course website as the course progresses.
Select homework problems will be corrected by the TFs if you submit them by their due dates.
- ◆ An EXAM will test your comprehensive understanding of the course material covered up to the time of the exam, including all the assigned problems.

DATE	LECTURE	READING	WORKOUTS
M9/17	Methods and Objectives of Microeconomics Allocation, Institution, Decision Economic Efficiency and Equity	1, 2, 3	1.1-5
W9/19	Consumption and Demand Preference and Utility Budget Constraint	5.1	2.1, 2.11, 3.10-15 4.2, 4.4, 4.6, 4.8, 5.2, 5.4, 5.8
M9/24	Choice and Demand	5.1, 5.2.1-7	6.2, 6.9, 6.12, 7.2, 7.10
W9/26	Income and Substitution Effects Consumer Surplus, Compensating Variation		8.7-10, 14.1, 14.3, 14.5
M10/01	Decision over Time Inter-temporal Preference and Choice	4.3	10.1, 10.5, 10.11, 30.1-2
W10/03	Consumption and Investment		11.9-11
M10/08	<No Class: Columbus Day Holiday>		
W10/10	Exam1 <i>Exam: covers material through 10/03</i>		
M10/15	Production and Supply Technology Economy of Scale and Scope	4.1	18.1, 18.3, 18.5, 18.11 19.9, 19.11, 19.13, 19.16
W10/17	Cost and Profit Firm Supply	4.1	20.3, 20.7, 21.3, 21.5-9 22.2, 22.4, 22.7-8, 22.10
M10/22	Entry and Exit Long-Run vs. Short Run	4.2	23.3, 23.5, 23.9, 23.11

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DATE	LECTURE	READING	WORKOUTS
	General Equilibrium and Perfect Competition		
W10/24	Conditions for Perfect Competition	2, 6.1-2	9.2-3, 9.10, 15.3, 15.6-8
	Welfare: Efficiency and Equity		16.2-4, 16.10-12, 30.5
M10/29	Exchange Economies	5.2.8-9	31.3, 31.5, 31.10, 32.4, 33.6-8
	Economies with Production		
	Monopoly		
W10/31	Origins of Monopoly	6.5, 7.7	24.4-6
	Monopoly without Price Discrimination		
M11/05 ProbSet3 due	Price Discrimination	6.5, 7.7	25.2-8, 26.2
W11/07	Taxation and Regulation of Monopolies		
M11/12	<No Class: Veteran's Day Holiday>		
W11/14 <u>Exam2</u>	<i>Exam: covers material through 11/07</i>		
	Oligopoly and Strategic Behavior		
M11/19	Oligopoly	7.2-3	27.1, 27.6, 27.10-11
	The Cournot Model		
W11/21	Game Theory and Economic Analysis	7.1	28.1-7, 30.8
M11/26	Mixed Strategies and Mixed Strategy Equilibrium	7.1	29.1, 29.3, 29.7-9
W11/28	Product Differentiation and Electoral Competition	7.4	25.9-11
	Auctions	7.6	17.1, 17.3, 17.5, 17.9
	Uncertainty and Risk		
M12/03 ProbSet4 due	Decision under Uncertainty	4.3.2	12.1-2, 12.6-7, 12.10-11
	Risk Aversion		13.1-2, 13.4, 30.4, 30.6
	Asymmetric Information		
W12/05	Risky Assets and Insurance Markets	6.6	37.1, 37.5, 37.7
	Adverse Selection in Insurance Markets		
M12/10	Moral Hazard and Corporate Governance	7.5	37.2, 37.4, 37.6
	Education and Screening		
	Economic Externalities		
W12/12	Pollution, Tragedy of the Commons	6.3	34.1, 34.8, 34.10
M12/17 ProbSet5 due	Public Goods, Network Externalities	6.4	35.1-3, 36.2-4, 36.7
<TBA> <u>Exam3</u>	<i>Exam: covers material from the whole course</i>		