API-109
Advanced Microeconomic Analysis I
Fall 2010

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Meetings: Monday and Wednesday, 11:40 am – 1 pm, L-140

Course Description: API-109 is the first semester of the two semester sequence in advanced microeconomic analysis for MPA/ID students. The goal of the course is to prepare students to use microeconomic theory to analyze applied problems in international development. The course is not, however, a course in the economics of development or a purely theoretical course in microeconomics. Rather, it is a doctoral-level course in microeconomic theory with an eye towards policy applications in the area of development. The course is intended for MPA/ID students and is closed to all others.

In addition to two weekly lectures, there will be a weekly section meeting conducted by the Teaching Fellow, and small group sessions with the professor (scheduled so that each student can participate once every two weeks.) A number of course assistants will hold weekly office hours to help with the homework and other basic questions. For advanced questions, students are encouraged to consult either the Teaching Fellow or the professor.

Prerequisites: The main prerequisite for the course is an understanding of multivariate calculus on the level of a typical undergraduate course (such as Math 21a in the Faculty of Arts and Sciences). In addition, students may find it useful to have familiarity with linear algebra, probability theory and mathematical optimization. However, as far as technical preparation, the most important prerequisite is a certain level of “mathematical sophistication” i.e. comfort in dealing with mathematical constructs and logic. In addition, a good understanding of intermediate microeconomics on the level of Varian’s Intermediate Microeconomics, will be helpful, though it is by no means necessary.

Requirements and Evaluation: The distribution of course grades will correspond roughly with the Kennedy School’s recommended grade distribution. Grades for the course will be based on the following requirements and weights:

Problem Sets 10%
Participation 5%
Midterm Exam 35%
Final Exam 50%.
**Class Structure:** For Fall 2010, the entering MPA/ID class is expected to include 65 students. To facilitate classroom interactions, the last 20 minutes of each lecture will be reserved for a discussion of an applied paper in development that utilizes the theoretical concepts discussed in the first hour of that lecture.

**Recommended Problems and Problem Sets:** A full set of practice problems and solutions will be provided on the course website. Typically there are about four problems per lecture, designed to highlight the key technical skills and concepts associated with each lecture. It is strongly recommended that students devote time to working through these problems and solutions rather than trying to build a comprehensive understanding of the material in the textbook.

There will be eight problem sets assigned over the course of the semester. The problem sets are intended to provide practice and feedback to students. In general, each problem set will consist of two problems from the full set of practice problems. They will be posted on the course website and will be due at the start of class on Mondays. Problem sets not received before the deadline will be considered late. There will be no credit for late assignments without prior approval from the Teaching Fellow.

Under the Kennedy School Academic Code, the problem sets for this course are “Type 2D” assignments (http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/degree-programs/registrar/academic_code.pdf). Students may work on problem sets in study groups, but each student should write up and hand in their own solutions. Photocopies or multiple printouts of essentially the same computer file are not acceptable. Experience has shown that much of the learning in this class takes place during group interactions, so students should make sure that they are contributing to their group’s efforts and that they understand all solutions to all problems. Problem sets will be given grades from 0 to 3 and “honest effort” at all of the questions should earn at least a “2”.

**Course Materials:** There will be required readings from two textbooks for this course:


MWG is the standard microeconomic theory text used in Economics Ph.D. programs and is accepted as providing the “language of economists”. However, it is quite encyclopedic and oriented to mathematical generality, sometimes at the expense of economic intuition. For this reason, Nolan Miller, who taught the course for many years, produced a supplemental set of lecture notes. These notes will be available through the course website.

MWG is the primary text for both API-109 and API-110. Readings from Bardhan and Udry will be less frequent, so some students may decide to read this book in the library or to share a copy with a small group of others.
To keep the cost of materials for the course as low as possible, handouts will be posted online (rather than distributed in hard copy), and almost all applied readings will be available online for free through the Harvard Library system.


These texts provide other approaches to essentially the same material. The Kreps and Varian texts books were the standard graduate level texts before the publication of MWG; many students consulted both books since Kreps is relatively chatty, while Varian is terse, but straightforward. Jehle and Reny is a new text that is similar to Varian, but with more explanation. Silberberg and Suen does the most “hand-holding” of any of these texts, walking the reader through the mechanics of microeconomic analysis.

There is an important distinction between two relevant books by Varian. *Intermediate Microeconomics* is a relatively advanced intermediate textbook that provides simpler treatment of many of the topics that we will study. *Microeconomic Analysis* is a doctoral level text at the appropriate level for API-109. Students may find each of these texts useful for different purposes.

Students looking for a math reference should consider Simon and Blume, *Mathematics for Economists* or Chiang, *Fundamental Methods of Mathematical Economics*.

**IMPORTANT DATES**

**WEDNESDAY OCTOBER 13** MIDTERM EXAM (in class)
**WEDNESDAY DECEMBER 15** FINAL EXAM: 2 pm to 5 pm.

**COURSE HOLIDAYS**
Monday September 6 (Labor Day)
Monday October 11 (Columbus Day)

**PROBLEM SET DUE DATES** (all due on Monday)
September 13 (#1), September 20 (#2), September 24 (#3), October 4 (#4), October 18 (#5), November 1 (#6), November 15 (#7), November 22 (#8).
Schedule of Lectures and Readings

UNIT 1: CONSUMER AND PRODUCER THEORY

Lecture 1 (September 1): Constrained Choice and Revealed Preferences

Technical Reading: MWG Ch. 2A – 2F, Miller Notes Ch. 1 – 2.7.


NO CLASS ON SEPTEMBER 6 (LABOR DAY)

Lecture 2 (September 8): Preferences and Ordinal Utility Functions

Technical Reading: MWG 3A – 3C, Miller Notes 3.1 – 3.3.


Lecture 3 (September 13): The Consumer Problem

Technical Reading: MWG 3D, Miller Notes 3.3


Lecture 4 (September 15): Wealth Effects and the Consumer Price Index

Technical Reading: Miller Notes 4.1


Lecture 5 (September 20): Duality, Substitution and the Slutsky Equation

Technical Reading: MWG 3E-3G, Miller Notes 3.4.1 to 3.4.6

Lectures 6 and 7 (September 22, 27): Welfare Evaluation and Empirical Estimation

Technical Reading: MWG 3I, Miller Notes 3.4.7


Lecture 8: (September 29): Topics in Consumer Theory

Technical Reading: Miller Notes 4.5, 4.6


MIDTERM EXAMINATION – Wednesday, October 13 (covers Lectures 1 to 8).

Lecture 9 (October 4): Technological Constraints and Profit Maximization

Technical Reading: MWG 5 A-D, Miller Notes 5 – 5.5.


Lecture 10 (October 6): Household Production

Technical Reading: Bardhan and Udry, Chapter 2.

UNIT 2: GENERAL EQUILIBRIUM

Lecture 11 (October 18): Exchange Equilibrium


Lecture 12 (October 20): Partial Equilibrium with Production


Application Reading: Abhijit Banerjee and Esther Duflo

Lecture 13 (October 25): Prices and Coordination of Economic Activities


Application Reading: Mark Rosenzweig

Lecture 14 (October 27): Comparative Advantage and General Equilibrium

Technical Reading: MWG 15.D


Lecture 15 (November 1): The Heckscher-Ohlin Theorem.

Technical Reading: Advanced International Trade, Robert C. Feenstra, chapter 2.


Lecture 16 (November 3): Productivity and Trade

Technical Reading: Feenstra, chapter 3.

UNIT 3: MARKET FAILURES

Lecture 17 (November 8): Externalities and Public Goods


Application Reading: TBA

Lecture 18 (November 10): Monopoly


Lecture 19 (November 15): Multiple Equilibria

Readings: Bardhan and Udry, Chapter 16.


UNIT 4: CHOICE UNDER UNCERTAINTY

Lecture 20 (November 17): Choice under Uncertainty

Technical Reading: MWG 6A – 6B, Miller Notes 6.1


Lecture 21 (November 22): Risk Aversion

Technical Reading: MWG 6C, Miller Notes 6.2


Lecture 22 and 23 (November 24): Insurance and Investment

Technical Reading: Miller Notes 6.3

Application Reading: Jonathan Morduch, et. al., Portfolios of the Poor, chapters 1-3.
Lecture 24: Information and The Law of One Price (December 1)


