API 109
Advanced Microeconomic Analysis I
Harvard Kennedy School, Fall 2022

Instructor: Juan E. Saavedra, jesaavedra@hks.harvard.edu
Office: Littauer 114
Office Hours: Monday 4:30pm-6:00pm
Faculty Assistant: Leah Marshall, Leah_Marshall@hks.harvard.edu

TF: Matthew Dodier, mdodier@g.harvard.edu; office hours: Fr 11am-1pm
TF Section: Fridays 1.30-2.45pm or 3-4.15pm, R-306
CA1: Laura Martinez, lauramartinez@hks.harvard.edu; office hours: Th 6-8pm
CA2: Enzo Dominguez Prost, edominguezprost@hks.harvard.edu; office hours: W 5-7pm
CA3: Kei Sakai keisakai@hks.harvard.edu; office hours: F 4-6pm

Important Dates

First Class Meeting:	Monday, August 29, 2022	12-1.15pm, Wex-436
First Section Meeting:	Friday, September 9, 2022	F 1.30-2.45pm or 3-4.15pm R-306
Midterm Exam:	Wednesday, October 12, 2022	12-1.15pm, Wex-436
Final Exam:	Monday, December 12, 2022	9-12pm, Room TBD

Class meetings: M-W, 12-1.15pm, in Wex-436

Overview

API 109 is the first semester of the two-semester sequence in advanced microeconomics for MPA/ID students. The goal of the course is to prepare students to analyze applied problems in international development using the tools of modern microeconomic theory. The course is a graduate-level course in microeconomic theory with an eye toward policy applications in development economics.

Audience

This course is intended for first-year MPA/ID students. Students not in the MPA/ID program will be admitted only with the permission of the instructor and only under exceptional circumstances. Students interested in a similar advanced microeconomics course should consider API 111 / Econ 2020a / HBS 4010 instead.

Prerequisites

The main prerequisite for this course is an understanding of multivariate calculus. Familiarity with linear algebra, probability theory, and mathematical optimization is also helpful. The most important prerequisite, however, is a degree of "mathematical sophistication" and comfort with rigorous reasoning and arguments.

Learning Objectives

Upon successful completion of this course, students will be able to:
1. Define, describe and explain with mathematical rigor key concepts (micro)economists typically use to think about development policy.
2. Examine development policy issues through the lens of microeconomics.
3. Identify the factors and market characteristics that are likely to produce inefficient outcomes, and suggest policy alternatives as remedies.
4. Predict market responses to various development policy measures.

Requirements and Grading
The course requirements include the completion of six (6) problem sets, a midterm exam, and a final exam. Your grades on these tasks will be weighted as follows:
Problem Sets 30%
Midterm Exam 30%
Final Exam 40%

The distribution of final course letter grades will correspond roughly to HKS's recommended grade distribution.

Problem Sets
Problem sets are graded primarily for completion and only a "check+/check/check−/no credit" will be offered for feedback. You are allowed (even encouraged) to work in small groups (four or fewer students) on the problem sets, but you must hand in independently written-up solutions. If you choose to collaborate with others, please identify other group members on your write-up. The problem sets are meant to be commitment devices to stay on top of the material and it will be very difficult to do well on the exams unless you can independently complete problem-set-like questions.

Problem set submissions must be uploaded to the course website on Canvas **prior to 11:30am on the corresponding Monday's due date**. **Problem Set 6 is due Friday December 2 by 11:30am on Canvas**. You can either upload pdfs of typed solutions or pictures of handwritten solutions.

Problem Set Due Dates (before 11:30am on Canvas)
Problem Set 1: September 12
Problem Set 2: September 19
Problem Set 3: October 3
Problem Set 4: October 31
Problem Set 5: November 14
Problem Set 6: December 2

Exams
The midterm exam will cover material from the first lecture through Lecture 10 on Mon Oct 3. On Oct. 5 we will hold a midterm review during class time.

The final exam will cover material from the entire semester and will take place on Dec. 12. Roughly two-thirds of the points will be for the post-midterm material. On Nov. 30 we will hold a final review during class time.

Accessibility & Accommodations for Student Learning

Harvard Kennedy School is committed to the full inclusion of students with disabilities (learning, mental-health related, physical, chronic illness, temporary injury, etc.). The school provides accommodations and support to students with documented disabilities on an individual, case-by-case basis. If students have a disability, or think they may have a disability and would like to receive accommodations for their learning, they must disclose and provide medical documentation about their disability to Melissa Wojciechowski St. John. Melissa is the Senior Director of Student Services—and serves as the local disability coordinator—in the HKS Office of Student Services. She can talk to you about your needs and assist you in the process for requesting and implementing accommodations. Because accommodations may require early planning and generally are not provided retroactively, we recommend that you contact her as soon as possible.

Course Diversity Statement

One of Harvard Kennedy School's greatest assets is its breadth of talent in the community. Every member of the Harvard community brings unique life experiences and perspectives into our classes and campus life. As schoolmates, we enrich each other's academic and social experiences by being appreciative of everyone's distinctive contributions. The teaching team is committed to cultivating a dynamic of mutual respect and dignity in the classroom from the first day forward. This respect goes in all directions: professor-to-student, student-to-professor, and student-to-student.

Academic Honesty and Integrity

All students are expected to abide by the University policies on academic honesty and integrity as given in the Student Handbook. Violations of these policies will not be tolerated and are subject to severe sanctions up to and including expulsion from the university.

Review Sections
The teaching fellow will hold weekly review sections. There will be two different sections, where identical material is covered so you can pick the more convenient time for you. Formally, attendance at these sections is optional. However, most students will benefit greatly from attending one weekly review section. The time and location of review sessions is:

Fridays 1.30-2.45pm or 3-4.15pm, in room R-306.

Study notes, textbook and complementary readings
The course is intended to be self-contained. As such you are primarily responsible for the material we cover in class, and for mastery of the material in problem sets. However, I will draw heavily on prior study notes created for this course by Professor Nolan Miller. On occasion I will

draw from material from the MWG reference book. Whenever relevant, I will also include suggested additional readings for specific development applications of the theory.

Study Notes
The main, **required**, reading materials for the course are Nolan Miller's excellent notes that he created especially for this course. These notes are publicly available at https://nmiller.web.illinois.edu//notes.html. The notes are meant to accompany the MWG course textbook. In the course lecture plan below, these appear in the required reading column, with NMN nomenclature followed by the corresponding chapter number.

MWG Reference Book
A good additional reference book is Mas-Colell, Whinston and Green, *Microeconomic Theory,* Oxford University Press 1995 (MWG). **You are not required to buy the book**, however. A digital copy is available at HKS library for your use. Anyone with a Harvard Key will be able to access the digital reserve copy, though it will only be available to one user at a time in three-hour windows. If you want to buy a copy of the book we have ordered a few from the COOP. Used versions are also available from Amazon and other sellers. In the course lecture plan below, these appear in the additional reading column, with MWG nomenclature followed by the corresponding chapter number.

Complementary readings
For specific development policy applications of the theory we cover in class I will rely on other readings, typically journal articles. These complementary readings will be made available on the course Canvas website.

Course Calendar (see next page)

Course Calendar

Date	Lecture #	Topic	Required Reading	Additional Reading
Mon, Aug 29	1	Introduction. The economic approach to development	NMN 1.	Bardhan and Udry, *Development Microeconomics,* Introduction.
Wed, Aug 31	2	Consumer theory basics 1: Budget sets, demand functions and Walras Law	NMN 2.1-2.5	MWG 2.A-2.D
Fri, Sep 2	3	Consumer theory basics 2: Homogeneity and revealed preference	NMN 2.6-2.7	MGW 2.E-2.F
Mon, Sep 5: No Class (Labor Day)				
Wed, Sep 7: No Class				
Mon, Sep 12	4	Applications of revealed preference: Law of demand and lump-sum principle	NMM 2.7	MGW 2.F
Wed, Sep 14	5	Traditional approach to consumer theory 1: Utility maximization	NMN 3.1-3.3	MWG 3.A-3.D
Mon, Sep 19	6	Traditional approach to consumer theory 2: Expenditure minimization	NMN 3.4	MWG 3.E
Wed, Sep 21	7	Applications of consumer theory 1: Unconditional and conditional	Garcia and Saavedra (2022) Section 3.	Do, Das and Ozler (2016)

Date	Lecture #	Topic	Required Reading	Additional Reading
		cash transfers in developing countries		
Mon, Sep 26	8	Applications of consumer theory 2: Consumption over time and saving for retirement	NMN 4.6	
Wed, Sep 28	9	Producer theory 1: Production sets and profit maximization	NMN 5.1-5.2	MWG 5.A-5.C (until just before cost minimization)
Mon, Oct 3	10	Producer theory 2: Cost minimization	NMN 5.3-5.5	MWG 5.C. (cost minimization section)
Wed, Oct 5	11	Review		
Mon, Oct 10: No Class (Columbus Day)				
Wed, Oct 12: **Midterm in Class**				
Mon, Oct 17	12	Application of producer theory 1: Agricultural households in developing countries	NMN 5.9	
Wed, Oct 19	13	Application of producer theory 2: O-ring theory of economic development	Kremer (1993)	
Mon, Oct 24	14	Choice under uncertainty 1: Lotteries and expected utility	NMN 6.1	MWG 6.A-6.B
Wed, Oct 26	15	Choice under uncertainty 2: Utility for money and risk aversion	NMN 6.2	MWG 6.C-6.D

Date	Lecture #	Topic	Required Reading	Additional Reading
Mon, Oct 31	16	Application of choice under uncertainty: Social insurance	NMN 6.3.1	
Wed, Nov 2	17	Competitive markets and partial equilibrium	NMN 7.1-7.2	MWG 10A-10.C
Mon, Nov 7	18	Fundamental welfare theorems	NMM 7.3	MWG 10.D-10E
Wed, Nov 9	19	Externalities	NMN 8.1-8.2	MWG 11.A-11.B
Mon, Nov 14	20	Public goods	NMN 8.3	MWG 11.C
Wed, Nov 16	21	Monopoly	NMN 9.1-9.2	MWG 12.A-12.B
Mon, Nov 21	22	Price discrimination	NMN 9.3	
Wed, Nov 23: No Class (Thanksgiving)				
Mon, Nov 28	23	Natural monopolies and regulation	NMN 9.4	
Wed, Nov 30	24	Review		