

Microeconomics and Policy Analysis I
ENVP U8213
Fall 2023
September 3, 2023

Subject to Change

Instruction Information

Instructor: Professor Guo Dong (guodong@columbia.edu)

Lecture Time: Tuesday 4:10-6pm

Location: IAB 410

Office Hours: Friday 3-5pm, 525 Interchurch Center (Claremont Av. & W 120th)

Teaching Assistant: Daniel Bressler (rdb2148@columbia.edu)

Recitation Times and Location: Thursday 4:10-6:00pm, IAB 410;

Office Hours: TBA

Departmental Course Reader: Ziyang Zhao (zz3033@columbia.edu)

Office Hours: TBA

Course Description

The objective of Microeconomics and Policy Analysis I is to ensure that students are able to use an economic framework to analyze policy choices including those related to the environment. Students will be expected to understand, apply and critique micro-economic models that inform economic and environmental policy. By the end of the semester, students will be expected to use economic concepts fluently to advocate various public policy positions.

We will begin with the big picture; how did economics evolve, what is a capitalist economy, and how do we think about it. We will then focus on tools for understanding core institutions such markets, individual workers and consumers, and firms. We describe simple supply-demand relationships and apply these to economic problems. We introduce the concepts of opportunity cost and choice, which are fundamental to an economic framework for public policy. We then examine basic tools used by economists. We examine in detail the underlying theory of consumers and producers necessary to derive supply and demand relationships. This detailed analysis facilitates an intelligent application and critique of these basic economic tools.

We will incorporate environmental examples throughout the class, but this is not a class on environmental economics. It will introduce you to microeconomics more generally, and give you a view of the economy interacting with lots of other political, social, and environmental factors.

Textbook

- **Pindyck and Rubinfeld.** *Microeconomics*. 9th edition.

Optional

- **Lee S. Friedman.** *The Microeconomics of Public Policy Analysis*
- **William D. Nordhaus.** *The Climate Casino: Risk, Uncertainty, and Economics for a Warming World*.
 - An update and informal view on the economics of climate change.

Course Expectation

Students are expected to have done the readings for each lecture before class. Students are also required to attend weekly lectures and recitations. Students will be expected to contribute to class discussions, both in person during lectures and recitations and online in CourseWorks. Contributing to class discussions means enhancing the quality of the class experience for yourself and others. It involves making relevant, useful and non-obvious comments, or posing pertinent questions, in clear and succinct language. Although there will be problem sets and tests, the emphasis of this course is on building strong economic intuition rather than technical skills. As in policy analysis, teamwork is an essential element of success in the class.

Given the nature of the ESP program and the relationship between economics and environmental policy, hands-on experience with environmental policy analysis will be useful for the students. Students will form teams of 4 and provide an in-depth analysis of an environmental policy issue using the economics concepts and tools learned in class. Each team is required to select a project topic in the form of a newspaper or magazine article from 2023 to be discussed with the instructor and be approved during Week 10. Each team will prepare a 15-minute project presentation, to be given during the second to last week of the semester.

Students are strongly encouraged to utilize the office hours of the instructor as well as the teaching assistants in asking questions relating to the course material and going over key concepts. Also, office hours are particularly useful to brainstorm topics for the group project and seek guidance on the use of economic models for subsequent analysis.

Evaluation

Weekly attendance of lectures and recitations, as well as active participation in class and in CourseWorks discussions are required. This will account for 20% of the final grade. Eight problem sets account for 20% of the final grade. Students will work in pairs on the problem sets

and submit one copy per group. There will be one midterm and one final exam, each counting for 20% of the grade. The final group project will count for 20%.

- 20% based on weekly participation on the discussion board and in class
- 20% based on 8 problem sets
- 20% based on the midterm
- 20% based on the final
- 20% based on the presentation

The overall grade will be weighted as above.

SIPA policy dictates that a core course such as this one must have a GPA of between 3.2 and 3.4, with the goal of 3.3, a B+. As such, the overall grade will be curved appropriately, with B+ considered a good grade that signifies confidence in your ability to conduct independent work in a professional environment with quality.

A grade of B therefore signifies minor problems that need improvement, and B- signifies significant issues requiring improvement. A and A- are reserved for work that distinguishes itself by going above and beyond a simply correct answer.

Course Outline (subject to change)

Week 1 (Sept. 5th) **Introduction to Economics**
Readings: P&R Chapter 1.1, 1.4

- The themes of microeconomics
- Why study economics

Week 2 (Sept. 12th) **Supply and Demand I**
Readings: P&R chapter 1.2, 2.1-2.3, 4.4, 9.1

- Introduction to markets
- Introduction to demand and supply
- Consumer and producer surplus

Week 3 (Sept. 19th) **Supply and Demand II**
Readings: P&R chapter 2.4-2.7,

- Elasticities
- Effect of government policies
- **Problem set 1 due**

Week 4 (Sept. 26th) **Consumer Theory**
Readings: P&R chapter 3.1-3.3, 3.5, 4.1, 4.2

- Consumer preference and utility
- Budget constraint and income and substitution effect
- **Problem set 2 due**

Week 5 (Oct. 3rd) **Firm Theory**
Readings: P&R chapter 6, 7.1-7.4

- Production theory
- Diminishing marginal returns
- Isoquant
- Cost theory – cost minimization
- Long run vs. short run cost
- Isocost
- Cost curves
- **Problem set 3 due**

Week 6 (Oct. 10th) **Analysis of Competitive Market**
Readings: P&R chapter 8, 9

- Profit maximization
- Market efficiency
- Impact of government policies
- **Problem set 4 due**

Week 7 (Oct. 17th) **Midterm Exam**

Week 8 (Oct. 24th) **Market Failure and Economics of the Public Sector I**
Readings: P&R chapter 18.1, 18.2

- Externalities
- Public policies toward externalities

Week 9 (Oct. 31st) **Market Failure and Economics of the Public Sector II**
Readings: P&R chapter 18.4-18.6

- Public goods
- Common resources
- **Problem set 5 due**
- **Form group of 3-4 for project**

Week 10 (Nov. 7th) **Academic Holiday**

- **Group project (a one-page proposal with the article) approved**

Week 11 (Nov. 14th) **Analysis of Non-competitive Market I**
Readings: P&R chapter 10.1-10.4, 10.7

- Market Power

- Monopoly
- **Problem set 6 due**

Week 12 (Nov. 21st) **Analysis of Non-competitive Market II**

Readings: P&R chapters 11, 12.1, 12.2, 12.4

- Price discrimination
- Monopolistic competition
- Oligopoly
- **Problem set 7 due**

Week 13 (Nov. 28th & 29th) **Group Presentations**

Environmental policy applications and analysis: energy, water, land, agriculture, forests, fisheries, transportation, air pollution, water pollution, waste....

- **Problem set 8 (optional) due**

Week 14 (Dec. 5th) **Final Exam**

School Policies and Expectations:

Academic and Professional Conduct

The program and its faculty will not tolerate academic dishonesty. You should properly cite ideas in your papers that are not originally yours at all times.

The Code of Academic and Professional Conduct provides information on proper citations, plagiarism policies, and outlines SIPA's expectations of academic and professional conduct for its students, faculty, and staff. Read the Code of Academic and Professional Conduct, and the Dean's Discipline Policy and Procedures:

<https://sipa.columbia.edu/students/policies/academic-policies-and-regulations>

Accessibility Statement

I want you to succeed in this course. Contact disability@columbia.edu for learning accommodations.

Names/Pronouns

You deserve to be addressed in a manner that reflects your identity. You are welcome to tell me your pronoun(s) and/or name (if different from University records) at any time, either in person or via email.

Discrimination

We embrace the diversity of gender, gender identity & expression, sex, sexual orientation, race, ethnicity, national origin, age, religion, disability status, family status, socioeconomic background, and other visible and non-visible identities. Columbia University does not tolerate unlawful discrimination, discriminatory harassment, sexual assault, domestic violence, dating violence, stalking, or sexual exploitation and all such conduct is forbidden by Columbia University Policy.

Duty to Report

You deserve a University community free from discrimination, harassment, and gender-based misconduct including sexual harassment, sexual assault, domestic and dating violence, stalking, and sexual exploitation. It is therefore University policy to require Columbia faculty and staff to report to EOAA any instance or allegation of prohibited conduct involving any undergraduate or any graduate student that is disclosed to, observed by, or otherwise known to that employee. This requirement to report is in place to help ensure that students are provided appropriate resources and to allow the University to mitigate harm to our community.

Confidential Resources

There are confidential resources on campus who do not have a Duty to Report, including:

- Sexual Violence Response & Rape Crisis/Anti-Violence Support Center (SVR)
- Ombuds Office
- Medical Services
- University Counseling and Psychological Services
- University Pastoral Counseling
- Columbia Office of Disability Services

University employees working in a confidential capacity will not report information shared with them.

Inclusion

In the MPA in Environmental Science and Policy program, faculty and staff are committed to the creation and maintenance of “inclusive learning” spaces – classrooms and other places of learning where you will be treated with respect and dignity, and where all individuals are provided equitable opportunity to participate, contribute, and succeed.

In this class, all students are welcome regardless of race/ethnicity, gender identities, gender expressions, sexual orientation, socio-economic status, age, disabilities, religion, regional background, Veteran status, citizenship status, nationality and other diverse identities that we each bring to class.