PPHA 32310
Advanced Microeconomics for Public Policy I

Harris School of Public Policy
University of Chicago

Autumn 2024

Instructor Scott Ashworth

Class meetings Monday and Wednesday, 4:30–5:50 in Keller 1002.

Office Hours Thursday 2:15–3:30 in Keller 2029

Head TA Keisuke Ito

TAs Sania Mahabaleshwarkar

Hang Yin

TA Sessions Friday, 10:30–11:50 in Keller 0023 and 3–4:20 in Keller 0021. You may choose whichever TA session time fits your schedule best, but you should attend every week.

TA Office Hours TK

Communication We will use Piazza (linked from Canvas) to handle questions about course material. If you need to send the instructor a message that you prefer not to post to Piazza, please use the Message function on Canvas. Do not send me email—it is likely to get lost in my inbox.

Course Description

> Learn to think the way an economist thinks: about individuals who act purposefully, pursuing some fairly well-defined goal, with conflicts of interest adjudicated by institutions that reach an equilibrium.
>
> —David Kreps

The primary goals of all Harris core micro courses are the same: To help you follow David Kreps's advice. This course in particular is for students who want to leverage their mathematical background in pursuit of that goal, and who want extensive practice in problem-solving. It is designed to support those

goals through careful attention to formal definitions and arguments along with a partially flipped classroom with lots of in-class group work.

The substantive focus for this quarter is on monopolistic and competitive markets. Roughly speaking, the first half of the course is about why economists are traditionally skeptical of monopoly and the second half is about why economists are traditionally fans of competition. We will pay attention to both the descriptive economics of these situations and the normative presuppositions that go into the evaluations. Along the way, we will study the classical theories of the firm and the consumer as needed to analyze markets.

Prerequisites

There are no economics prerequisites. I do assume you are concurrently enrolled in Analytical Politics I. If you are not, and do not know about Nash equilibrium, you will need to fill in that background on your own. I recommend these two videos and these slides by Jeff Ely.

You will need mathematical preparation beyond the Harris Math Camp, including at least differential and integral calculus. As important, you will most benefit from this class if you have a bit of "mathematical maturity". In their classic textbook *Games and Decisions,* Luce and Raiffa glossed this quality as follows:

> The reader must be able to accept conditional statements, even though he feels the suppositions to be false; he must be willing to make concessions to mathematical simplicity; he must be patient enough to follow along with the peculiar kind of construction that mathematics is; and, above all, he must have sympathy with the method—a sympathy based upon his knowledge of its past successes in various of the empirical sciences and upon his realization of the necessity for rigorous deduction in science as we know it.

Math classes are one way to get that; I imagine serious work at coding is another.

Reading

I will mostly follow:

> Rakesh V. Vohra, *Prices and Quantities: Fundamentals of Microeconomics*

You should get a copy of this book, ideally a physical copy so you can refer to it in class for group work. (Note the electronics policy later on this syllabus!) It is a slim paperback, so it is both easier to carry and cheaper than standard textbooks.

I also quite admire Martin Osborne and Ariel Rubinstein's *Models in Microeconomic Theory* (expanded second edition). That one is available for free here.

There will be a few additional readings and videos, most of which will be available through Canvas. The exception is one chapter from *Political Economy for Public Policy,* the textbook for AP I.

Schedule

This schedule is subject to change. Any revisions will be announced in class and on Canvas.

Sept. 30: Introductory meeting; Buyers and Sellers

Vohra, ch. 1

Mini-anthology on models, featuring Timothy Gowers, Robert Solow, and Robert Lucas

Monopoly

Oct. 2: Basic Monopoly Pricing

Vohra, ch. 2 through §2.3

Oct. 7: Welfare Analysis of Monopoly (and Monopsony)

Vohra, §§2.5–6, 2.9

Oct. 9: Surplus and Efficiency

Bueno de Mesquita, *Political Economy for Public Policy,* §§3.3–5

Jeff Ely, "Efficiency", video and slides

Oct. 14: Dynamics: Double Marginalization and Durable Goods

Vohra, §§2.4, 2.7, 2.11

Oct. 16: Deriving Cost Functions

Vohra, §§2.8

Auctions and Mechanism Design

Note: This topic assumes the game theory covered in week three of AP I.

Oct. 21: Efficient Auctions

Martin Osborne, *An Introduction to Game Theory,* §3.5

Jeff Ely, "Efficient Auctions", video and slides

Oct. 23: Revenue Maximizing Auctions

Jeff Ely, "Auctions and Profit-Maximization", video and slides

Oct. 28: Public Goods

Martin Osborne and Ariel Rubinstein, *Models in Microeconomic Theory,* ch. 17

Oct. 30: Midterm Exam (in class)

Consumer Theory

Nov. 1: Preferences and Utility   **NOTE FRIDAY LECTURE.** The lecture will replace the 1:30 section this week.

Vohra, ch. 5 through pp. 119

Nov. 4: Demand

Vohra, pp. 119–128

Nov. 6: Comparative Statics

Vohra, §§5.6–9, 11–12

Nov. 11: Consumer Welfare

Vohra, §§5.10, 5.13

Bueno de Mesquita, *Political Economy for Public Policy,* §3.6

Hausman and McPherson, "Beware of Economists Bearing Advice"

Thaler and Sunstein, "Libertarian Paternalism"

Competition

Nov. 13: Exchange Economies

Vohra, §§6.1–3

Nov. 18: No Class—Instructor Travelling

Nov. 20: Adding Production

Vohra, §§6.4–6

Nov. 25: No Class—Thanksgiving

Nov. 27: No Class—Thanksgiving

Dec. 2: Automation, Minimum Wages, and the Cost Disease

Vohra, §§6.7–9

Dec. 4: Concluding Discussion: Is Economics Ideological?

Course Work and Evaluation

Component	Weight
Attendance	15%
Problem Sets	15%
Midterm Exam	30%
Final Exam	40%

Student Responsibilities

There are five primary responsibilities: reading, class participation, problem sets, a midterm, and a final exam.

Reading. There are readings (and occasional videos) listed for each class meeting. You **must** do these in advance.

Class Participation. Each course meeting will involve a mix of lecture, small-group exercises, and discussion. As such, regular attendance is crucial, as is active participation in exercises and discussions. Attendance must be in-person; classes will not be recorded or streamed.

I will not grade the content of your participation. Instead, I will monitor attendance and trust you to participate, not just show up. We have 17 class meetings. You get full credit for this component if you are present for at least 15 of the class meetings. This means you do not need to alert me if you will miss a class or two for a minor illness.

Problem Sets There will be 6 problem sets, due during weeks 2, 3, 4, 6, 7, and 9. Each will consist of a mix of short answer and analytical exercises designed to give you some hands-on experience with the tools discussed in the readings.

Problem sets will be done in preassigned random groups and graded at the group level. The assignment will be made via canvas by the head TA and will change after problem set 3. All problem sets will receive equal weight. Problem sets should be submitted on-line on Canvas and are due on Fridays at 1:30pm. Discussion sections on Friday, from 1:30–2:50 and 3–4:20, will discuss the solutions to the week's problems and any other questions you bring.

Midterm The midterm exam will be in class on Wed., Oct. 30. It covers material from the first *four* weeks of the course.

Final Exam. The final exam will be in person, at a time and place to be determined by the Harris Registrar. It is comprehensive, but will draw significantly more from the second half of the course than from the first half.

Both exams will be a mix of short answer questions and analytical problems. Everything discussed in class and everything in the assigned reading is fair game for questions. So neither class alone not reading alone is sufficient preparation.

Course Policies

Technology in the Classroom Laptops, tablets, and cell phones must be put away during class. If you might need to receive a call during class for some reason, put your phone on vibrate and step out quietly as needed. If you have an accommodation that requires electronics, please let me know as soon as possible.

For more on the evidence base for this policy, see Susan Dynarski's "For better learning in college lectures, lay down the laptop and pick up a pen".

Late Assignments There are no exceptions to the deadlines for any assignment, except in case of a serious emergency. If such an emergency does arise, you should contact the Harris Dean of Students Office.

Regrade Requests If you think there is any problem with the way your work has been graded, you must submit a regrade request within one week of the work being returned to you. The request must be in writing, and must be specific about what you believe is incorrect in the grading. We will regrade the entire assignment or exam—your grade may go up or go down as a result.

Academic Honesty All University of Chicago students are expected to uphold the highest standards of academic Integrity and honesty. Among other things, this means that students shall not represent another's work as their own, use un-allowed materials during exams, or otherwise gain unfair academic advantage. All students suspected of academic dishonesty will be reported to the Harris Dean of Students for investigation and adjudication. The disciplinary process can result in sanctions up to and including suspension or expulsion from the University. In addition to disciplinary sanctions, I will impose a grade of 0 on any assignment on which a student has committed academic dishonesty.

Generative AI Don't use it. Of necessity, much of what you'll do this quarter has been done before, by many people. As a result, tools like ChatGPT can provide answers to many of the problems you will solve. Taking advantage of that will result in you learning nothing, which is quite a waste of your tuition dollars. I light of this, I consider using any generative AI tool in this class to be academic dishonesty.

Links

- Harris Academic Support Programs and Handbook
- Student Wellness
- UChicagoGRAD
- Harris School Policies
- University General Policies
- University Academic Polices
- Policy on audio and video recordings