BEPP 2500, Fall 2022
Managerial Economics

This is a course in intermediate microeconomics. Microeconomics is the scientific study of social behavior with a focus on economic issues. Microeconomics is based on three principles: individuals respond to incentives, individual behavior aggregates into equilibrium social behavior, and we can use normative criteria to find desirable outcomes.

The goals of the course are to master microeconomics and to apply microeconomics to problems in business, policy, and social science. Have you wondered: "How should Uber set prices?"; "How does trade with China affect American manufacturing?", "Why are Playstation games expensive while Sony sells the console at cost?", "Should income tax rates for millionaires be 75%?", "Should Spotify start charging per song?", "Why did Apple design iOS and manufacture iPhones, while Google built Android, but manufactures a small share of Android phones?" "What are the benefits to society of an individual getting vaccinated against covid?" These are the types of questions we will consider.

General organization

For Fall 2022, the course will be fully in person, pending other instructions from the School.

Lectures
Each lecture covers a topic and solves a problem. After each lecture we will post a practice problem with solutions, and the problem set will have a problem related to the lecture. The exams are extremely consistent with these problems. Mastering the lecture content and problems is the best way to prepare for the exams.

Recitations
Recitations are taught by our graduate TAs, and will cover problems and the class content of the week. Attendance is required. See the schedule below for dates.

Additional resources
- **Canvas discussion board:** You are encouraged to use our canvas site when you have questions. The undergraduate TAs will be active helping students on our canvas board, and we expect this to be a lively community. ***Always ask questions on canvas first***, including admin questions, because you are helping other students who have the same question.

- **TAs/Program coordinator:** After Canvas discussion board, your primary point of contact for any course-related matters are your TAs. For administrative matters, you can contact the program coordinator Beth Moskat. If your question relates to course rules and logistics, please read the syllabus before contacting us.

- **Office hours:** The undergraduate TAs and the faculty have weekly drop-in office hours (see the schedule). You are welcome to come to office hours to get help with

problem sets, the material generally, and preparing for exams. See Canvas for the schedule.

- **Background readings:** We will post a background reading on Canvas prior to every lecture with short question to be answered on-line. Students are expected to read the articles prior to lecture to foster class discussion and this will be part of the participation grade. The exams may ask big picture questions about the readings. You don't have to memorize every detail, if you broadly understood the reading you will get the questions right.

- **Textbook**: There are no required textbooks for this course. If you would like to use a textbook, we recommend *Intermediate Microeconomics with Calculus: A Modern Approach* by Hal Varian. Any edition is fine. While the class slides, problems sets, and practice problems have all of the content we expect you to know, the book may be a helpful additional resource. Professor Rakesh Vohra from the Penn Economics Department also has an excellent new book in preparation. We posted his current draft .pdf on Canvas, and it is an excellent resource if you want to study further.

- **Past Exams**: We will post many past exams on Canvas with solutions. While we are making this content available, beware that BEPP 2500 has changed over the years. While the last two or three years of past exams are the most relevant, older exams often cover different topics and have different types of problems.

Grading

Grades depend on attendance and participation (15%), problem sets (10%), two midterms (20% each), and a final exam (35%).

Problem Sets: There will be 7 problem sets. Problem sets should be uploaded as pdf documents on Canvas by 11:59PM (EST) on the due date, always on a Sunday. See the schedule for due dates. No credit is given for late submissions. Solutions are posted the day after the due date. **Students are free to work together but must submit their own answers.**

Exams: Exams are closed book. You do not need a calculator and do not have to bring one. Exams will be consistent with our problem sets, problems in lectures, and practice problems, so making sure to master these problems is the best way to prepare. Remember that you are bound by the Penn Code of Student Conduct (see below). Cheating is wrong – plain and simple. Just act ethically and keep in mind that we know more than you do about cheating.

Attendance and participation: We will keep a record of attendance to lectures and recitations. We will also assess your answers to the questions about the background readings and keep track of Canvas discussion board participations and the quality of in-class interventions and questions.

Staff

	Email	Office Hours
Course Coordinator		
Beth Moskat	emoskat@wharton.upenn.edu	
Undergraduate TAs		
Anya Arora	anyaa@wharton.upenn.edu	
Rikki Kong	Rkong01@wharton.upenn.edu	
Nicholas Kuo	nickkuo@seas.upenn.edu	
Salam Karadsheh	salamkar@seas.upenn.edu	
Graduate TAs		
Scott Kim (Head TA)	scottjmk@wharton.upenn.edu	
Kathy Bi	kathybi@wharton.upenn.edu	
Ryan Zalla	ryanzalla@gmail.com	
Faculty		
Eduardo Azevedo	eazevedo@wharton.upenn.edu	
Gilles Duranton	duranton@wharton.upenn.edu	
Miaomiao Dong	miaodong@wharton.upenn.edu	

Other Information

Prerequisites: Students need to have taken ECON 1, ECON 10 or an equivalent course. They should also have taken MATH 103 or an equivalent course.

Attendance: Attendance in lectures and recitations is mandatory. Attendance will be recorded within 5 minutes of the start of each lecture and recitation. The class will have a seating chart so please be in your proper seat on time. Exams will be based on the material covered in lectures. Each student has a credit of three excused absences across lectures and recitations. This should cover religious holidays, illnesses, and other legitimate reasons for missing a class. Additional absences (beyond two) are unexcused and will lower your attendance grade. If you miss a class, you are encouraged to report and explain it using the Course Absence Report. CAR is solely for informational purposes; its use cannot hurt you (in particular, it will not affect your course grade) and could help you (by keeping Academic & Advising well-informed of any possible problems; remember, they are there to support you).

Ethics: We expect you to abide by the University of Pennsylvania's Code of Academic Integrity. Violations of the code carry serious sanctions. Violations include the altering of exams after we have returned the exams. In the spirit of discouraging any temptation to engage in such unethical practices, we keep photocopies of midterm and final exams before returning them to students. The faculty will turn all cases of code violations over to the Office of Student Conduct and reserve the right to impose additional sanctions, including a failing grade for the assignment / exam and the course.

Electronics: We do generally not allow the use of electronic devices, such as smartphones, tablets, laptops, smartwatches in class.

Re-grading Policy: If you wish to dispute a grade on an exam, follow the steps below:

1) Carefully read the answer sheet posted on Canvas. Take at least 24 hours to think about the answers before submitting a re-grade request.

2) If you decide to submit a request, submit it in writing on a separate piece of paper and attach that sheet to your exam. **Do not write on the exam.** Additionally:

   a) For each part of the exam that you think was mis-graded, give a written explanation of your view.
   b) You must submit the entire original exam (not just the question(s) you wish to have re-graded). Your score could go down or up with re-grading.
   c) We reserve the right to re-grade the whole exam (even questions not requested for a re-grade).
   d) Submit your regrade request via email to the head TA.
   e) The deadline for regrade requests is one week from when the solutions are posted.

Policy for Missing an Examination: We expect you to attend the midterm and final exams. You will receive zero points for a missed exam, unless you have a medical or personal emergency or some unavoidable school-related conflict that is recognized and excused by the instructor. If you have a conflict, please contact Beth Moskat in advance.

Students with Disabilities: Requests for academic accommodations need to be made during the first two weeks of the semester, except under unusual circumstances, to arrange reasonable accommodations. Students must register with Student Disabilities Services (SDS) for disability verification and for determination of reasonable academic accommodations.

Content

Lecture #	Topic	Varian Chapter
1	Intro	
2	Comparative statics	1, 15 and 16
3	Consumer theory 1	2 to 4
4	Consumer theory 2	5
5	Firm theory: cost minimization	19 to 21
6	Firm theory: cost curves	22
7	Firm theory: supply	23 and 24
8	Consumer surplus and the invisible hand	14
9	Commodity taxation	16
10	International trade	
11	Monopoly pricing	25
12	Price discrimination	26
13	Price discrimination	26
14	Game theory: static games	29 and 30
15	Game theory: dynamic games	29 and 30
16	Game: Opeq	
17	Oligopoly 1: bertrand and cournot	28
18	Oligopoly 2: stackelberg and mergers	28
19	Oligopoly 3: differentiated products	28
20	Vertical integration	
21	Auctions	18
22	Externalities	35
23	Adverse selection	38

Schedule

Monday / Wednesday Lectures (MiaoMiao Dong / Gilles Duranton)

Week	Date	Lecture #
1	Wednesday, 31 August 2022	1
2	Monday, 5 September 2022	No lecture (labor day)
	Wednesday, 7 September 2022	2
3	Monday, 12 September 2022	3
	Wednesday, 1~~4~~3 September 2022	4
4	Monday, 19 September 2022	5
	Wednesday, 21 September 2022	6
5	Monday, 26 September 2022	7
	Wednesday, 28 September 2022	No lecture (exam prep)
6	Monday, 3 October 2022	No lecture (exam)
	Monday, 3 October 2022	**First Exam @ 7PM**
	Wednesday, 5 October 2022	8
7	Monday, 10 October 2022	9
	Wednesday, 12 October 2022	10
8	Monday, 17 October 2022	11
	Wednesday, 1~~8~~9 October 2022	12
9	Monday, 24 October 2022	13
	Wednesday, 26 October 2022	14
10	Monday, 31 October 2022	15
	Wednesday, 2 November 2022	No lecture (exam prep)
11	Monday, 7 November 2022	No lecture (exam)
	Tuesday, 8 November 2022	**Second Exam @ 7PM**
	Wednesday, 9 November 2022	16 (OPEQ game)
12	Monday, 14 November 2022	17
	Wednesday, 16 November 2022	18

13	Monday, 21 November 2022	19
	Wednesday, 23 November 2022	No lecture (Thanksgiving)
14	Monday, 28 November 2022	20
	Wednesday, 30 November 2022	21
15	Monday, 5 December 2022	22
	Wednesday, 7 December 2022	23 (last lecture)
16		**Final exam @ TBD**

Tuesday / Thursday Lectures (Eduardo Azevedo)

Week	Date	Lecture #
1	Tuesday, 30 August 2022	No lecture
	Thursday, 1 September 2022	1
2	Tuesday, 6 September 2022	2
	Thursday, 8 September 2022	3
3	Tuesday, 13 September 2022	4
	Thursday, 15 September 2022	5
4	Tuesday, 20 September 2022	6
	Thursday, 22 September 2022	7
5	Tuesday, 27 September 2022	8
	Thursday, 29 September 2022	No lecture (exam prep)
	Monday, 3 October 2022	**First Exam @ 7PM**
6	Tuesday, 4 October 2022	No lecture (post exam/Yom Kippur)
	Thursday, 6 October 2022	**No Lecture – Fall Break**
7	Tuesday, 11 October 2022	9
	Thursday, 13 October 2022	10
8	Tuesday, 18 October 2022	11
	Thursday, 20 October 2022	12

9	Tuesday, 25 October 2022	13
	Thursday, 27 October 2022	14
10	Tuesday, 1 November 2022	15
	Thursday, 3 November 2022	No lecture (exam prep)
11	Tuesday, 8 November 2022	No lecture (exam)
	Tuesday, 8 November 2022	**Second Exam @ 7PM**
	Thursday, 10 November 2022	16 (OPEQ game)
12	Tuesday, 15 November 2022	17
	Thursday, 17 November 2022	18
13	Tuesday, 22 November 2022	19
	Thursday, 24 November 2022	No lecture (Thanksgiving)
14	Tuesday, 29 November 2022	20
	Thursday, 1 December 2022	21
15	Tuesday, 6 December 2022	22
	Thursday, 8 December 2022	23 (last lecture)

Recitation Schedule

Week	Date	Recitation #
1	Friday, September 2, 2022	1
2	Friday, September 9, 2022	2
3	Friday, September 16, 2022	3
4	Friday, September 23, 2022	4
5	Friday, September 30, 2022	5
6	Friday, October 7, 2022	No recitation (fall break)
7	Friday, October 14, 2022	6
8	Friday, October 21, 2022	7
9	Friday, October 28, 2022	8
10	Friday, November 4, 2022	9
11	Friday, November 11, 2022	No recitation (family weekend)
12	Friday, November 18, 2022	10
13	Friday, November 25, 2022	No recitation (Thanksgiving)
14	Friday, December 2, 2022	11
15	Friday, December 9, 2022	12

Problem Set Schedule

Problem Set #	Due Date (Sunday by 11:59PM on Canvas)	Lectures covered
1	Sunday, 19 September 2022	1 to 4
2	Sunday, 3 October 2022	5 to 7
3	Sunday, 17 October 2022	8 to 10
4	Sunday, 31 October 2022	11 to 13
5	Sunday, 21 November 2022	14 to 17
6	Sunday, 5 December 2022	18 to 20
7	Sunday, 12 December 2022	21 to 23

Lecture and Recitation Locations

Lecture Locations

Section	Faculty	Day/Time	Classroom
BEPP 2500-001	Miaomiao Dong	MW 01:45-3:15 P.M.	JMHH340
BEPP 2500-002	Gilles Duranton	MW 03:30-5:00 P.M.	JMHH340
BEPP 2500-003	Eduardo Azevedo	TR 08:30-10:15 A.M.	SHDH107
BEPP 2500-004	Eduardo Azevedo	TR 10:15-11:45 A.M.	SHDH107

Recitation Locations

Section	TA	Time	Classroom
BEPP 2500-201	Kathy Bi	F 10:15-11:15	TBA
BEPP 2500-202	Kathy Bi	F 12:00-1:00	TBA
BEPP 2500-203	Ryan Zalla	F 1:45-2:45	TBA
BEPP 2500-204	Ryan Zalla	F 3:30-4:30	TBA
BEPP 2500-205	Ryan Zalla	F 10:15-11:15	TBA
BEPP 2500-206	Ryan Zalla	W 5:15-6:15	TBA
BEPP 2500-207	Kathy Bi	R 3:30-4:30	TBA
BEPP 2500-208	Kathy Bi	R 5:15-6:15	TBA