73-102 Principles of Microeconomics

Summer 2020

Instructor	Andre Mouton	**Lecture time**	Mon-Thu, 3:00-4:20pm (EST)
Email	amouton@andrew.cmu.edu	**Office hours**	Fri 3:00-4:20 (EST), + TBD
Website	canvas.cmu.edu	**Final exam**	Thu 6/25 - Fri 6/27

Course description

This course is an introduction to microeconomic principles. Students will learn the basics of economic analysis, and how to apply this analysis to questions of interest. When do markets succeed, and when do they fail? What are the effects of government policy? Why do economic outcomes vary across places and times? Economists answer these questions by studying the choices that people make, and how these choices interact in social settings like markets. The goal of this course is to prepare students for more advanced coursework in economics, and for the economic ideas and realities that students may encounter in their personal, professional, and public lives. The format will be lecture-based, with assessments based on homework and exams.

By the end of this course, students should be able to:

- Present and analyze economic decisions as optimization problems
- Formulate models of market supply and demand, and solve for the equilibrium
- Extend equilibrium analysis to the cases of externalities, strategic interaction, and monopoly
- Evaluate the ability of government policy to improve on market outcomes
- Recognize the limitations of the economic models we study
- Identify approaches for empirically applying/testing a model
- Apply economic thinking to commonly encountered situations

Course materials

Textbook. The textbook for this course is *Microeconomics, 2nd ed.*, by Acemoglu, Laibson, and List. We have negotiated a reduced price for the e-text through the CMU online bookstore, but you may also purchase a used copy from Amazon or elsewhere.

Zoom. Lectures will take place via Zoom (zoom.us) and can be accessed (both live and recorded) through the course Canvas page. Check to ensure that you have a working microphone. If you're new to Zoom,

CMU has helpful tutorials at www.cmu.edu/computing/services/comm-collab/web-conferencing/zoom/how-to/index.html.

Canvas. In addition to recorded lectures, I will post slides and assignments on the class Canvas page. Completed assignments will also be submitted through Canvas, so be sure to bookmark the page.

Course policies

Lectures. Lectures will be held synchronously via Zoom, and will also be recorded and posted to Canvas. To attend lectures you can (1) use the link provided on the course Canvas page, or (2) select the meeting in your Zoom app (it should appear if you're registered for the course).

Applications. Four of the lectures will be applications, intended to provide a more hands-on approach to the material. You may be challenged to formalize some commonly-encountered choice as an economic problem, to better see how economic thought translates into everyday life; or we may test the validity of an economic model by running a classroom experiment. Applications are likely to involve small group work and/or discussion.

Office hours/open discussion. Each Friday we will have open discussion in place of a lecture. This is a chance for you to ask questions, get help with homework, or just discuss the course material with me or your classmates. I will also hold an office hour session earlier in the week, at a day/time TBD but with preference given to the needs of overseas students.

Assessments. Course grades will be allocated using the standard Carnegie Mellon breakdown, which is (A: 90+), (B: 80-90), (C: 70-80), (D: 60-70), and (F: 60-). Your grade for the course will be calculated based on the following:

- Participation (5%): I will conduct a Zoom poll during each of the 22 lectures/applications, and if you are present and respond to the poll then you'll receive $\frac{1}{3}$%, up to a maximum of 5% (i.e. full credit if you attend 15 lectures). This course will be fast-paced, and active participation will help ensure that you don't fall behind.
- Homework (15%): there will be a total of 6 homework assignments. Each homework will be posted to Canvas at the beginning of the week, and must be turned in before that week's 'open discussion' (3pm Friday for weeks 1-5, and 3pm Thursday for week 6). The homework will consist of short-answer questions, intended to walk you through the steps of posing/solving/analyzing an economic problem, and to provide you with practice and feedback prior to exams.
- Exams (50%): we will have two open-book exams, each comprising 25% of the final grade and covering material from the previous 2 weeks. Problem format will be similar to that of the homework. The exams will be released at 3:30pm (EST) on Friday, and you will have 24 hours to complete them (they should only take 1-2 hours).
- Final exam (30%): this will also be open-book, and will be cumulative. The final will be released on Thursday 6/25 after class, and you will have 48 hours to complete it.

In homework/exams you will be given problems that test your ability to apply economic analysis to a question, arrive at a carefully reasoned answer, and critically evaluate that answer. These problems will usually take the following form:

1. You will be asked a question, and provided with supplementary information. This information will usually be in the form of equations or graphs - tools that economists use because they help us to think carefully and concisely about the question being asked.

2. You will then have to answer the question, which means setting up and solving an economic problem. This step requires careful reasoning: working from a set of assumptions to derive an answer.

3. Finally, you will be asked to interpret your answer. What can it tell you, and what can it not tell you? What information would allow you to test your answer, or to apply it in real life? These are difficult questions, and we will discuss them extensively in lectures - so it is important that you attend!

Time zones. If you are in a time zone that prevents you from attending lectures live, send me an email and we will make other arrangements. This is planned for, and you won't be penalized! However, please try to let me know as soon as possible.

Accommodations. If you have a disability and have an accommodations letter from the Disability Resources office, I encourage you to discuss your accommodations and needs with me as early as possible. I will work with you to ensure that accommodations are provided as appropriate. If you suspect that you may have a disability and would benefit from accommodations but are not yet registered with the Office of Disability Resources, I encourage you to visit their website at `www.cmu.edu/disability-resources/students/obtaining-accommodations.html`.

Make-ups and re-grades. Due to the fast pace of this course, it's important that you submit assignments on time. If circumstances arise that will prevent you from making a deadline, then contact me in advance and we see whether an alternative arrangement is possible. Assignments that are late/missing without prior explanation will be handled on a case-by-case basis, and will typically be penalized.

If you wish to appeal an exam or homework grade, then I ask that you (1) send me this appeal within a week of receiving your grade, and (2) provide a written explanation for why you believe the grade to be incorrect (unless, of course, it's a simple miscalculation on my part). To be fair to both you and your classmates I will re-grade your entire assignment, which means that it is possible for your grade to go down.

Academic integrity. Students at Carnegie Mellon are engaged in preparation for professional activity of the highest standards. Each profession constrains its members with both ethical responsibilities and disciplinary limits. To assure the validity of the learning experience a university establishes clear standards for student work. In any presentation, creative, artistic, or research, it is the ethical responsibility of each student to identify the conceptual sources of the work submitted. Failure to do so is dishonest and is the basis for a charge of cheating or plagiarism, which is subject to disciplinary action.

The university's academic integrity policy can be viewed at `www.cmu.edu/policies/`. For the purposes of this course, it is critical that your work be your own. All graded assignments must be completed individually,

and any failure to do so will constitute cheating and will be reported to the CMU administration. If you have any concerns or questions, or need further clarification, please contact me! The typical course-level penalty for an academic integrity violation is an automatic failure of the course, and in certain cases a university level penalty might be warranted.

Take care of yourself!

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, I strongly encourage you to seek support. Counseling and Psychological Services (CaPS) is here to help: call 412-268-2922 and visit their website at www.cmu.edu/counseling. Consider reaching out to a friend, advisor, mentor, faculty or family member you trust for help getting connected to the support that can help.

Course schedule (subject to revision)

Class	Day	Date	Lecture Topic	Chapters	Assignments
1	Mon	5/18	Introduction	1	
2	Tue	5/19	Principle of optimization	3	
3	Wed	5/20	Principle of equilibrium	4	
4	Thu	5/21	Testing economic models	2	
5	Fri	5/22	*Open discussion*		HW#1
6	Tue	5/26	Demand	5	
7	Wed	5/27	Supply	6	
8	Thu	5/28	Application #1		
9	Fri	5/29	*Open discussion*		HW#2
	Sat	**5/30**		**1-6**	**Exam#1**
10	Mon	6/1	Competitive equilibrium	7	
11	Tue	6/2	Trade	8	
12	Wed	6/3	Labor markets	11	
13	Thu	6/4	Application #2		
14	Fri	6/5	*Open discussion*		HW#3
15	Mon	6/8	Policy and perfect competition	10	
16	Tue	6/9	Externalities and public goods	9.1-9.2, 9.4-9.5	
17	Wed	6/10	Policy and market failure	9.3	
18	Thu	6/11	Application #3		
19	Fri	6/12	*Open discussion*		HW#4
	Sat	**6/13**		**7-11**	**Exam #2**
20	Mon	6/15	Monopoly	12	
21	Tue	6/16	Game theory I	13.1-13.4	
22	Wed	6/17	Game theory II	13.5	
23	Thu	6/18	Oligopoly	14	
24	Fri	6/19	*Open discussion*		HW#5
25	Mon	6/22	Time and risk	15	
26	Tue	6/23	Asymmetric information	16	
27	Wed	6/24	Application #4		
28	Thu	6/25	*Open discussion*		HW#6
	Sat	**6/27**		**1-16**	**Final exam**