

Microeconomic Analysis

ECON 641
Master of Science in Applied Economics Program
University of Maryland
Fall 2021

Instructor:	Dr. Aaron Finkle
Email:	afinkle@umd.edu
Class Time:	Tuesdays 6:30pm - 9:15pm
Office:	TYD 3147B
Office Hours	Tuesdays 5:15-6:15 or by Zoom appointment
TA:	Tomohiro Hara
TA Email:	tomohara@umd.edu
TA Office Hours	Mondays 5:15-6:15p

1 Overview

This course covers microeconomic analysis applied to public policy problems with an emphasis on practical examples and how they illustrate microeconomic theories. Policy issues such as pollution, welfare and income distribution, market design, industry regulation, price controls, tax policy, and health insurance are used to illustrate the abstract principles of microeconomics.

Students will master microeconomic theory at a level of mathematical rigor befitting a professional master's program in applied economics. The level of mathematical rigor will be higher than in a typical undergraduate intermediate microeconomics course, but much lower than in the first year of a "top 40" economics PhD program like the University of Maryland's. We will make extensive use of differential calculus. Students will apply microeconomic theory to a broad range of questions relevant to public policy.

1.1 Website

Copies of the course syllabus, your grades, and other relevant links and documents will be posted on the course's ELMS/Canvas website. You can access the site via www.elms.umd.edu. You will need to use your University of Maryland "directory ID" and password.

1.2 Email

The University has adopted email as the primary means of communication outside the classroom, and I will use it to inform you of important announcements. Students are responsible for updating their current email address via <http://www.registrar.umd.edu/current/> (Under the first major heading of "Online Transactions" there is a link to "Update Contact Information".)

1.3 Work Load

Mastering the material covered in this course requires a significant amount of work outside of class. Students should expect to spend more time outside of class than in class – typically at least twice as much time.

1.4 Prerequisites

Admission to the Master of Professional Studies in Applied Economics program. Note: The program admissions requirements include a grade of at least B in an introductory microeconomics course and a grade of at least B in an introductory calculus course.

2 Required Text and Supplementary Material

The required text for this course is:

- Jeffrey Perloff, *Microeconomics: Theory and Applications with Calculus, 5th edition*. 2020 Pearson

It is important you buy the version that has “**with Calculus**” in the title as the non-calculus version is quite different in notation. While earlier editions are mostly similar, if you choose to use an earlier edition, you are required to check for any relevant differences.

A good free supplement for additional sample problems:

- Ted Bergstrom and Hal Varian, *Workouts in Microeconomic Theory*. Online: www.econ.ucsb.edu/~tedb/Courses/GraduateTheoryUCSB/workouts.pdf

Another useful online resource for review of Calculus is Kahn Academy: • Tutorial on Differential Calculus: www.khanacademy.org/math/differential-calculus • Applications “Skill Check” on Optimization www.khanacademy.org/math/differential-calculus/derivative-applications

Additionally, presentations during the semester will cover applications from the following textbooks:

- Walter Nicholson and Christopher Snyder, *Intermediate Microeconomics and Its Application 12th edition*. 2014 Cengage.
- Austan Goolsbee, Steven Levitt, Chad Syverson, *Microeconomics Second Edition*, 2016 MacMillan.

I will provide the readings from these for you via ELMS.

3 Course Objectives

The program has 7 general learning outcomes for students:

1. Ability to understand, evaluate and analyze economic data
2. Ability to understand and interpret statistical evidence from economic data
3. Ability to apply empirical evidence to assessing economic arguments
4. Ability to apply macroeconomic theories to policy discussions
5. Ability to apply microeconomic theories to policy discussions
6. Ability to communicate economic ideas to a broader audience
7. Ability to evaluate the effectiveness of policy programs using sound economic techniques

The learning outcomes that pertain to ECON 641 are outcomes 5, 6, and 7.

4 Course Grading and Expectations

Your grade will be calculated with the following weighting:

Requirement	% of Grade
1. Final Exam	35%
2. Problem Sets	25%
3. In Class Midterms	20%
4. Math Quiz	5%
5. Presentation	10%
6. Reading Quizzes	5%

4.1 Final Exam

The Final Exam will be on the last class day. The exam will be designed to take students about 2 hours to complete, but students will have the entirety of the class time to complete the exam. The exam will consist of 3 or 4 problems similar to those on the Problem Sets but with some variations. All material covered during the semester is fair game for the final exam. The final exam is closed book, though students are permitted to use a scientific, non-programable calculator. The final exam will be graded as a percentage.

4.2 Presentations

The supplemental textbooks by Nicholson and Snyder and Goolsbee et al contain a series of “Applications” of microeconomic theory, and two other texts. These applications are typically one-page descriptions of how the theory in that chapter of the book has been applied by economists in a variety of contexts, including references to the academic journal article on the topic. The Applications selected specifically cite one or two academic journal articles upon which the applied work is based. The Applications also typically suggest a couple interesting questions and/or policy challenges to think about.

Each student will give a short presentation at some point during the semester live in class. I will ask that students to provide their preferences for presentation week during the first week of class. Presentations will use the textbook applications as a starting point to then discuss the cited research paper. This is one example of the difference between graduate and undergraduate education. Our classes are seminars. That means that all members of the group share responsibility for teaching each other. I will bear more responsibility for teaching in ECON 641 than any other member of the seminar. But each of you will also bear some responsibility – especially on the day you present your Application.

Central to this assignment is presenting the material from the application and the associated economics journal article. A presentation that does not adequately cover the journal article referenced in the application will be incomplete. In addition to describing the article, presentations are to address specifically the distinction between *positive* economic implications and *normative* ones.

In the week before the class of your presentation:

1. Live presentations will occur at the start of class.
2. Email me no later than **Friday** with your selected topic from that section. A list of the Applications for that week will be posted on ELMS. If two students choose the same Application

that week, the selection will be determined on a first to email me basis. If the topic is already selected, you will need to choose another topic.

3. Once your selection has been confirmed, you can read the cited academic paper, and prepare a draft of your slides.
4. Email me no later than Sunday at noon a draft of your slides. I will then provide you with feedback by Monday evening.
5. Email me the final version of your slides by 6pm on Tuesday of the class day so that I may upload it and have it ready for the presentation.

This grade will be based on the clarity and quality of the presentation, the presenter's ability to incorporate in my pre-presentation feedback, quality of slides, inclusion of outside material, and also the presenter's answers to questions posed during the presentation.

4.3 Problem Sets

Problem set assignments are provided on ELMS for each week. The homework will always consist of 2 or 3 analytical problems. Problem sets are all weighted equally and assigned a point score out of 60.

Problem set answers are to be submitted by scanning your written answers and submitting them to ELMS. Typing then on a computer is not recommended as there is a lot of math notation. However, if anyone is interested in learning how mathematical notation is done, many economists use LaTeX, a typesetting program. I am happy to provide individuals with material on this. However, it will often take a lot more time to complete assignments and can be a distraction from learning the content.

Typically, one of the problems will relate to material covered during our previous meeting, while one of the other problems will relate to material to be covered on the day that the homework problem is due. This is intentional. This requires students to study the material on their own prior to my lecture. Undergraduate courses often claim to expect students to read the material before coming to class. Graduate courses expect students to do more than passively read the material before coming to class.

Sometimes it will be the case that a solution for one of the assigned homework problems is readily available online – even before the homework is due. The TA who grades the homework will also have access to the online solution. Less than full credit will be given when it is obvious that a student's work was mindlessly copied.

Students are strongly encouraged to work with each other on the homework, but each student must turn in his or her own work individually. Those who simply copy answers from others are in violation of the code of academic integrity and is considered a form of cheating. It is also a very poor way of learning the material and will become evident when it comes to quizzes and the exam.

4.4 Math Assessment Quiz

Microeconomic theory relies heavily on a solid understanding of differential calculus and solving optimization problems. It is critical that students are able to solve these problems in order to progress through the class. In the fourth class meeting, there will be a calculus and optimization assessment quiz to help identify students in need of additional review. Those who are identified as needing extra help will be contacted and additional math review sessions will occur. Students are not permitted to discuss or work together on the Math quiz.

4.5 Midterm Quizzes

There will be two in-class quizzes given during the semester (see schedule below). These midterm quizzes will be given at the start of the class meeting, and consist of two or three problems similar to problem set questions but with slight changes. All material covered up to that point is fair game for the quizzes. The quiz will be closed book and take 45 minutes. Calculators are permitted, but no notes or other study aids of any kind will be allowed.

4.6 Reading Quizzes

Each week other than the final week, there will be a brief 8 to 10 question reading quiz with multiple choice/fill in the blank/numerical problems on the readings for the coming class. These are intended to be relatively simple, but push students to make sure to have the reading done, and began to work on some of the problem solving for that chapter. They are a low stake way of gauging your understanding of the reading and help pinpoint areas of confusion. These are due by 6pm Tuesdays (in preparation for that class).

4.7 Attendance and Class Participation

Attendance is not mandatory, but you are responsible for catching up on any material from missed classes. This class moves quickly and it is quite easy to fall behind even from missing a single session. My teaching style relies on the feedback of students. I encourage you to utilize our class time to make clear to me what topics are worthy of particular emphasis and which items can be moved on more quickly. Your alertness and participation in class will earn you a small bump to your final grade.

To ensure an effective learning environment for the whole class, refrain from texting and non-class related computer use (checking email, etc). Please avoid disrupting other students by coming in late or leaving midway in the class. (If you must leave early, let me know in advance and sit near the door.) Laptops for note-taking are okay, but only if you restrict its use to coursework.

Please note that we will have class the Tuesday before Thanksgiving.

4.8 Grading Scale

At the end of the semester I will calculate the weighted average of each graded component of the course outlined above. I will look at the distribution of total course points across students and assign letter grades in a way that respects the ordering of numerical course grades. I will decide where to draw the lines between different letter grades according to my professional judgement.

While individual assignments will not have a letter grade, as the course makes progress, I will convey to the class how grade distributions stand up to any one date and what letter grades might be expected based on that distribution should the class have ended at that time with no commitment to that times numerical-to-letter-grade conversion holding at the end of the class (numerical score distributions may fluctuate substantially, which means that numerical-to-letter-grade conversions will vary as well depending on any one time's numerical score distribution).

5 Other Standard Policies for the Program and the University of Maryland

5.1 Workload

Mastering the material covered in this course requires a significant amount of work outside of class. Students should expect to spend more time outside of class than in class – typically at least twice as much time.

5.2 Academic Integrity

The University of Maryland has a nationally recognized Code of Academic Integrity, administered by the Student Honor Council. This Code sets standards applicable to all undergraduate and graduate students, and you are responsible for upholding these standards as you complete assignments and take exams in this course. Please make yourself aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information see www.studenthonorcouncil.umd.edu.

5.3 Classroom Mask Requirement

President Pines provided clear expectations to the University about the wearing of masks for unvaccinated students. Face coverings over the nose and mouth are required while you are indoors at all times. There are no exceptions. Students not wearing a mask will be given a warning and asked to wear one, or will be asked to leave the classroom immediately. Students who have additional issues with the mask expectation after a first warning will be referred to the Office of Student Conduct for failure to comply with a directive of University officials.

5.4 Student Conduct

Students are expected to treat each other with respect. Disruptive behavior of any kind will not be tolerated. Students who are unable to show civility to one another or myself will be referred to the Office of Student Conduct. You are expected to adhere to the Code of Student Conduct.

5.5 Excused Absences

The University of Maryland's policy on excused absences is posted here: <http://www.president.umd.edu/administration/policies/section-v-student-affairs/v-100g>

Please note: If you miss any class meetings for any reason, you are still responsible for all material covered during the meeting you missed. It is your responsibility – not the instructor's – to get yourself caught up in the course. Instructors routinely facilitate things by posting lecture notes, etc.

If you need to miss an exam or other graded course requirement because of illness, injury, or some other emergency: Follow doctor's orders and get documentation. Get in touch with the instructor as soon as you're able – preferably prior to missing the exam or deadline. Communicate with the instructor to make up the course requirement as soon as possible. You are entitled to recover before you make up the course requirement, but you are not entitled to extra days to study beyond the time the doctor's note says you're incapacitated. If you are incapacitated for more than a week or so beyond the end of the term, your grade in the course will be an "Incomplete". In such cases

you must negotiate a plan with your instructor for completing the course requirements. Once you make up the course requirement the instructor will change your "I" to the appropriate letter grade.

5.6 School Closings and Delays

Information regarding official University closing and delays can be found on the campus website and the snow phone line: (301) 405-SNOW (405-7669) The program director will also announce cancellation information to the program as an announcement on the program's ELMS/Canvas site. This will generally be done by 1:00 p.m. on days when weather or other factors are an issue. If classes need to be cancelled during the semester, it may be necessary to move the final exam back a week so missed classes can be made up.

5.7 UMD Counseling Center

Sometimes students experience academic, personal and/or emotional distress. The UMD Counseling Center in Shoemaker Hall provides comprehensive and confidential support services that promote personal, social, and academic success. The cost of these services is covered by the fees you already paid when you registered for classes, and there is no additional charge if you use the services. Proactively explore the range of services available, including the Counseling Service, Accessibility and Disability Service, Learning Assistance Service, and the Testing Office, all described at <http://www.counseling.umd.edu/>

5.8 Students with Disabilities

The University of Maryland does not discriminate based on differences in age, race, ethnicity, sex, religion, disability, sexual orientation, class, political affiliation, or national origin. Reasonable accommodations will be arranged for students with documented disabilities. Students who have an accommodations letter from the Accessibility and Disability Service (ADS) should meet with me during the first week of the term to discuss and plan for the implementation of your accommodations. If you require reasonable accommodations but have not yet registered with ADS, please contact the Accessibility and Disability Service at 301-314-7682 or adsfrontdesk@umd.edu.

5.9 Academic Progress

The UMD Graduate School requires that students maintain a GPA of at least 3.0. Students whose cumulative GPA falls below 3.0 will be placed on academic probation by the graduate school. Students on academic probation must ask the program's director to petition the graduate school if they want to remain enrolled in the program. The petition must include a plan for getting the student's GPA up to at least 3.0. Students who do not live up to their plan can have their enrollment in the program terminated without having earned the degree. Note: a grade of "B" corresponds to a GPA of 3.0. A grade of "B-" corresponds to a GPA of 2.7.

5.10 Building Access

Access to Morrill Hall and Morrill 1102: Morrill Hall is locked every day from 7:00 p.m. - 7:00 a.m. Your university ID gives you swipe access to the back door of the building.

6 Schedule of Topics

The schedule below is subject to change. Updates will be made on ELMS as needed. Please reference the Modules and assignment dates on ELMS

Week	Section Topics	Problem Set and Quiz
1 (8/31)	Introduction, Supply and Demand	
2 (9/7)	Budget Sets, Utility and Optimal Choice	PS1
3 (9/14)	Mathematics of Optimization; Demand Derivation	PS2
4 (9/21)	Welfare of Consumers	PS3
5 (9/28)	Expected Utility and Risk	PS4, Math Quiz
6 (10/5)	General Equilibrium and Welfare	PS5
7 (10/12)	Production, Profit Maximization	PS6
8 (10/19)	Cost Minimization	PS7, Midterm 1
9 (10/26)	Perfect Competition and Supply	PS8
10 (11/2)	Monopoly and Monopsony	PS9
11 (11/9)	Price Discrimination, Imperfect Competition	PS10
12 (11/16)	Oligopoly	PS11, Midterm 2
13 (11/23)	Game Theory	PS12
14 (11/30)	Externalities and Public Goods	PS13
15 (12/7)	Final Exam	

**Supplementary readings provided online.