

ECON 641: Microeconomic Analysis

Wonjun Chang

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University of Maryland - College Park, Washington DC Location

Master of Science in Applied Economics Program

E-mail: wjchang@umd.edu

Class hours and location: Wednesdays 6:45-9:30 PM with 15-minute break

Web: <https://www.elms.umd.edu/>

Office Hours: Saturdays 4-5 PM and other times by appointment

T.A.: Sueyoul Kim (shelkim@umd.edu)

T.A. Office Hours: Mondays 5:30 – 6:30 PM

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 an 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, videos for the asynchronous portion, 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. I will make use of the ELMS page for class notes, announcements, lecture videos and for assigning and collecting problem sets.

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".) I will do my best to respond to email within 36 hours.

1.3 Pre-requisites

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, ISBN13: 9780134167381

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 by comparing the table of contents.

Although I will provide lecture notes that focus on some of the concepts mentioned in the textbook, my notes are supplemental. *All information covered in the assigned reading is fair game for the midterm and final exams.*

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 textbook:

- Walter Nicholson and Christopher Snyder, *Intermediate Microeconomics and Its Application*. Cengage Learning; 12th edition (1133189024).

I will provide access to applications from Nicholson and Snyder 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

- 30% Final Exam
- 30% Problem Sets
- 5% Math Quiz
- 20% Midterm Exam
- 10% Presentation
- 5% Presentation Online Discussion Participation

At the end of the term, every student will receive a numerical course grade between 0 and 100 based on the student's performance in the graded elements listed above. I will decide upon the numerical cut-offs between various letter grades based on my professional judgement. I will consider students' performance relative to the class. I will also consider absolute standards of professional competence. Highly competent students will get A's. Barely competent students will get B's. Incompetent students will get B-'s or worse. The cut-offs that I use will respect the ordinal ranking of numerical course grades. No student with a given numerical course grade will receive a lower letter grade than someone else with a lower numerical course grade.

4.1 Final Exam

The final exam will take place on the last day of the course. Students will have the entirety of the class time to complete the exam. Although all material covered during the semester is fair game for the final exam, material discussed in problem sets will be given greater weight. The final exam is closed book, though students are permitted to use a scientific, non-programable calculator.

4.2 Problem Sets

Problem sets are assigned and uploaded every week at noon on Wednesdays except for the last week of the semester. The homework will always consist of two or three analytical problems that relates to the assigned reading material and lecture from the previous Wednesday. Problem sets are all weighted equally and assigned a point score out of 10. *I will drop each student's lowest-scoring problem set.*

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. 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 or from available solution documents are in violation of the code of academic integrity and is considered a form of cheating. As a portion of the final exam will be based on the problem sets, it is important for students to own their learning from the problem sets.

Problem Sets are to be hand-written or typed and submitted electronically via ELMS. Problem Sets should be submitted no later than the start of the class period in which they are due. The phone App for ELMS (Canvas) has a feature to photograph and directly submit your assignments. You may also save the image to your computer and upload via a web browser. If you have any problems submitting your assignment in this way, please let me know.

4.3 Math Assessment Quiz

In the fourth week of class, there will be a calculus assessment quiz to help students realize whether they need additional review. Optional extra math sessions will be provided during TA office hours to all students. Students who earn more than 80% of the possible points on the calculus quiz will likely not need to attend these sessions but are welcome to attend.

4.4 Midterm Exam

There will be one midterm exam given during the semester (see schedule below). The test will be given at the start of the class meeting, and will consist of problems similar to problem set questions but with slight changes. All material covered up to that point is fair game for the midterm. The midterm will have a 1-hour time limit.

4.5 Presentation

During the first week of class, students will be assigned into pairs. Students have until 5pm on Friday (9/2) to form pairs on their own and email me with them. After that point, I will assign pairs as I see fit. Each student pair will give a presentation at some point during the semester. This means there will be one or two student presentations scheduled for each class.

We will use the textbook Applications from Nicholson and Snyder (available on ELMS and a copy in the main lounge) as the starting points for student presentations that look a bit further into the issues they raise. The textbook contains more than 100 concise “Applications” of microeconomic theory. These applications are typically one-page descriptions of how the theory in that section of the book has been applied by economists in a variety of contexts. The Applications presented in the book typically cite one or two academic journal articles upon which the applied work is based. The Applications also typically suggest a couple of interesting questions and/or policy challenges to think about. Students are to present the application from the textbook as well as provide additional details on at least one of the cited economics papers.

I will ask that students choose their presentation topic and date after the first class. In particular, students may post their two or three most preferred topics in the discussion board. This requires that students look ahead to the textbook Applications that will come throughout the whole semester. After presentation topics are chosen, I will provide scans of the selected Applications for all students to read in advance of the class presentations. Those not presenting are required to read the application in advance of the presentation.

Some of the presentations early in the semester will come the week after the relevant material has been covered in class. Most of the presentations, however, will come on the same day that the relevant material is being covered in class. This means that the student presenters must read ahead and prepare their presentations before sitting through my lecture on the relevant material. 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.

Expectations for presenters:

1. Presentations will occur at the start of class.
2. The presentation should use PowerPoint slides.
3. The presentation should be designed to last about 10 minutes.
4. The presenter should be prepared to answer questions during the presentation
5. This grade will be based on the clarity and quality of the presentation; the presenter’s ability to incorporate in my pre-presentation feedback; and the presenter’s answers to questions posed during the presentation.
6. Discussion about the presentations will take place online (more details in the next subsection).

Complete drafts of PowerPoint presentations are due as email attachments to me by 4:00 pm on the Sunday before your presentation. I will send feedback by Monday morning. You need to revise your presentation based on my feedback and send the final version to me as an email attachment by 6:00 pm on the day of the presentation.

4.6 Presentation Online Discussion

By Thursday at 11:59 PM, each student *pair* should post a question, constructive criticism, or comment on the discussion board regarding each presentation that was made in class that week. The presenters then have until 9 AM Sunday to choose and respond to three distinct comments/questions. Each *individual student* then has until the beginning of next class (Wednesday at 6:45pm) to post one additional comment or question in any of the three threads they like. (Even if there were multiple presentations, the student should still contribute only one additional comment in a given week.) Students should not follow up in a thread until the presenter has responded to the initial question/comment. I will also contribute questions and comments as I see fit. Every student in the class will receive a grade between 0 and 5 points based on my assessment of their contribution to the online discussion. People who do not contribute anything of merit will get zeros. People who make insightful and constructive contributions will get 5’s.

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.)

I strongly discourage using a laptop to take notes, since there is substantial evidence that note-taking on paper is more effective than note-taking electronically. However, as this is a graduate course, you are free to make your own decisions.

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

Policies related to all graduate courses at the University of Maryland are posted on this page of the Graduate School's website:

<https://gradschool.umd.edu/faculty-and-staff/course-related-policies>

Please familiarize yourself with these policies related academic integrity, non-discrimination policy, accessibility, absences and accommodations, grading, academic standing, grievance procedures, and other important policies.

Contact Hours: Three credit master's-level courses at the University of Maryland require a minimum amount of contact between instructors and students. Our courses' 12 weekly meetings only satisfy 80% of the university's contact requirement. The other 20% is satisfied by weekly mandatory and graded online contact. In principle, the contact hours requirement could be satisfied by scheduling 3 additional 150-minute meetings per term, or 6 additional 75-minute meetings, or 10 additional 45-minute meetings. But in practice the contact hours requirement is satisfied by the weekly online discussion boards. The weekly online discussions are a more flexible way to ensure that our program's courses in DC provide the same level of student-instructor contact as the traditional 15-week face-to-face version of the same course when it is taught on campus in College Park.

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. The courses in our DC program are 12-week courses that cover all the same material as a traditional semester-long 3-credit course (15 weeks). The compressed schedule makes it possible to complete our degree in just 15 months if you take 2 courses each term. But the compressed schedule also implies an accelerated pace with an average of 25% more work per week in a given course ($15/12 = 1.25$). The normal full-time load in a master's program is 3 courses per semester, or 6 courses per year. The weekly work load when taking 2 of our DC courses per term is equivalent to the load from 2.5 "normal" 15-week courses - so $2.5/3.0=83\%$ of a full-time load. Students who take 2 courses per quarter in our program complete 8 courses per year. So over the course of a year, taking 2 courses per quarter in our DC program is equivalent to 133% of a full-time load ($8/6 = 1.33$).

Academic Progress: The 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 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 be forced to leave

the program 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.

Excused Absences: 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 to work with study partners, the teaching assistant, and the instructor to make sure you catch up on the missed material. 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've been 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.

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. When classes need to be canceled during the semester, we make every effort to schedule makeup classes.

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, and the Testing Office, all described at <http://www.counseling.umd.edu/>

Graduate Academic Counselor: The UMD Graduate School also has an academic counselor available to support students who are having difficulty navigating mental health resources on campus, are considering a leave of absence and/or need assistance finding mental health care off campus. The Graduate Academic Counselor also facilitates bi-weekly Graduate Student Circle Sessions which provide an opportunity to learn about resources and connect with other graduate students. Students can learn more about the Graduate Academic Counselor by going to: <https://gradschool.umd.edu/gradcounselor>

Course Evaluations: Near the end of the term, you will receive an email inviting you to submit a voluntary and anonymous course evaluation. Your feedback on courses will be very helpful in improving the quality of instruction in our program.

Building Access: There is a smartphone app that can be used to enter our building after normal business hours. The program coordinator will provide information about this. We will also provide information about the code for entering the front door of our suite. Please make sure you are receiving the ELMS-Announcements that we send out to the program about these and other important matters.

6. Schedule of Topics

** Syllabus is subject to change, as needed, to best realize the educational goals of the course*

Week	Date	Topic	Deliverables
1	31-Aug	Introduction, Supply and Demand	
2	7-Sep	Budget Sets, Utility and Optimal Choice	PS1
3	14-Sep	Mathematics of Optimization; Demand Derivation	PS2
4	21-Sep	Welfare of Consumers	PS3; Calculus Quiz
5	28-Sep	Risk; Labor Supply	PS4
6	5-Oct	Production, Profit Maximization; Factor Markets	PS5
7	12-Oct	Cost Minimization and Competitive Supply	PS6; Midterm Exam
8	19-Oct	Perfect Competition Applications	PS7
9	26-Oct	Monopoly and Pricing	PS8
10	2-Nov	Game Theory	PS9
11	9-Nov	Oligopoly and Monopolistic Competition	PS10
12	16-Nov	Final Exam	