

Master of Professional Studies in Applied Economics
University of Maryland
1400 16th St., NW, Suite 140, Washington, DC
ECON 641: Microeconomic Analysis
Fall 2016

Syllabus

Instructor: Sandy Hoffmann, (202) 436-4574, Shoffma8@umd.edu

Office Hours: 30 minutes before class every Tuesday evening, and by appointment

Teaching Assistant: Hidehiko Matsumoto (Hide – “Hee-Day” (DCmastersTA@econ.umd.edu)

Office Hours: Weekly from 3:00-6:30, but not on the same day each week. See Program’s ELMS/Canvas site, with weekly reminders via ELMS/Canvas announcements.

Time: *Class meeting:*

Tuesdays 6:45-9:30PM

There will be a 15 minute break at some point between 7:45 and 8:30PM

Plus weekly online discussions

Location: 1400 16th St. NW, Washington, DC, suite 140

Course 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 <https://elms.umd.edu/>. You will need to use your University of Maryland “directory ID” and password.

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.testudo.umd.edu/apps/saddr/> AND for paying attention to messages I send to the class. Failure to check email, errors in forwarding email, and returned email due to “mailbox full” or “user unknown” will not excuse a student from missing announcements or deadlines. I will do my best to respond to email within 36 hours. Please include ECON641 in the subject line, so I can easily distinguish your message from spam or other less important matters.

Prerequisites:

Admission to the Master of Professional Studies in Applied Economics program.

- *This requires at least 1 semester of introductory microeconomics with a grade of at least B, and at least 1 semester of calculus with a grade of at least B-.*

General Course Description and Overview

This is a master's level course in applied microeconomic theory. Microeconomic theory provides the foundation for most professional economic analysis done in business and government. This course will provide students with an understanding of this core theory and will help them build facility with using this theory to think about the kinds of economic analysis problems they may encounter in their professional lives. Policy issues such as pollution, welfare and income distribution, market design, industry regulation, price controls, tax policy and health insurance are used as practical examples to illustrate the abstract principles of microeconomics.

Course Objectives:

Professional economic analysts need to be able to conduct and communicate about economic analysis verbally, graphically and mathematically. Students will be expected to be able to master all three approaches to using and communicating the concepts covered in this course.

Students will master microeconomic theory at a level of mathematical rigor appropriate to a professional master's program in applied economics. The level of mathematical rigor will be higher than that in a typical undergraduate intermediate microeconomic course, but much lower than that in the 1st 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.

Students will master an ability to present economic concepts and analysis in oral presentations.

Learning Objectives

Our 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 objectives that apply to this course are numbers 5, 6, and 7.

Work Load:

Mastering the material covered in this course requires a significant amount of work outside of class. You should expect to spend at least 2-3 hours outside of class per hour of class time. Like a rigorous mathematics course, learning microeconomics requires dedication to working through applications and problems. Reading the assigned readings will not by itself be enough to master this material, you must work through problems. I encourage you to form study groups as a means of building skills in working with others to think through economic concepts and communicate about them verbally, but it is also critical that you take responsibility for individually mastering the material.

The courses in our DC program are 12-week courses that cover all the same material as a traditional 15-week semester, 3-hour course. The compressed schedule makes it possible to complete your 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 than in the longer semester ($15/12=1.25$).

Bottom line: If you work hard and concentrate on ECON 641 over the next 15 weeks, you will learn a lot of microeconomics. You will develop skills that a professional economist needs to analyze economic problems.

Required Textbook: *Intermediate Microeconomics and Its Application* by Walter Nicholson and Christopher Snyder, 12th ed. (IM); supplemented by required more mathematically advanced treatments of the same material that I will post on the course's ELMS/Canvas website as PDFs.

Other Supplemental Texts: The books listed here are not required, but you may find it helpful to look at the material we are covering from a different perspective. I will also be drawing on these materials occasionally in developing lectures.

I have personally purchased a copy of each book and placed them on the shelf in the reception area across from Eileen's desk. Please be courteous to me and to your classmates and do not remove these books from our program's suite.

1. Textbooks covering the economic theory we will cover, but using differential calculus:

Nicholson, Walter and Christopher Snyder. *Microeconomic Theory: Basic Principles and Extensions*. 11th Edition. Cengage Learning. A calculus based version of our textbook. (BPE)¹

Perloff, Jeffrey. *Microeconomics: Theory and Applications with Calculus*. 4th edition. Pearson Higher Education.

Nechyba, Thomas. *Microeconomics: An Intuitive Approach with Calculus*. Cengage Learning.

¹ BPE is written by the same authors as our text book. It presents the same material, but uses much more calculus. The course's required text (IM) avoids calculus entirely, but includes over 100 concise examples of how microeconomic theory can be applied to address real-worlds policy-relevant questions. We will make extensive use of these applications in the course. They provide a great introduction to what our entire course is about: Applied Economics.

The more advanced BPE textbook uses some mathematical tools that go beyond the scope of our program. IM avoids calculus altogether, which is below the level of mathematical rigor required of our program. My strategy is to use the required text as your main reference for understanding economic theory as it's applied by professional economists. I will supplement the required text in my class notes with selected excerpts from BPE and other more mathematically advanced textbooks in order to bring the level of mathematical rigor up to standards of our program. Even though you will only be responsible for these selected excerpts, many students will find it worthwhile to purchase both the IM and BPE books and keep them for future reference.

Henderson, James and Richard Quandt. *Microeconomic Theory: A Mathematical Approach*. (Out of print, an oldy, but goody)

You may find other textbooks that you find helpful. Please share your suggestions with others.

2. Math for Economists:

Chiang, Alpha. *Fundamental Methods of Mathematical Economics*. (4th Ed.). (A perennial favorite that takes a more verbal approach to the math you'll need as an economist. Also a very good reference. Used copies are available very cheaply (possibly less than \$10). I highly recommend it.)

If you prefer math presented in a more conventional “math textbook” format try these:

Sydsaeter, K., Hammond, P. and Strom, A. (2012). *Essential Mathematics for Economic Analysis*. 4th edition. Pearson Higher Education.

Klein, Michael W. *Mathematical Methods for Economics*. 2d Edition. (available at UMD library)

A useful online resource: <https://www.khanacademy.org/math>

- Tutorials on differential calculus: <https://www.khanacademy.org/math/calculus-home/differential-calculus>
- Derivatives application “skill check” on Optimization: <https://www.khanacademy.org/math/calculus-home/differential-calculus/derivative-applications>

Class Schedule

NOTES:

- There will be a 15-minute break every week at some point between 7:45 and 8:30PM.
- Each class will include at least one graded student presentation based on IM Applications. This will usually take place after the break.
- Problems are due at the beginning of the class after they are assigned.

Weekly Online Discussion Sessions: After each class I will post at least one question to a discussion board on the course's ELMS/Canvas site. The question(s) will be related to that evening's presentations. Everyone in the class – including the presenter – can discuss the posted question until midnight the following evening.

Participation in these discussion sessions are mandatory and graded (see presentations below).

Week 1. Aug. 29 Intro to Economics and Mathematical Foundations.

- Required: IM Chapter 1, PDF handouts
- Optional: BPE Chapter 1 and 2 (pp. 21-32); Chaining Sections: 2.5-2.7, 7.1-7.4.
- Problems: See the ELMS/Canvas website
- Example IM "Application presentation by instructor.
- Explain system for scheduling student presentations (details posted on ELMS/Canvas)

Week 2. Sept. 5 Utility and Choice

- Required: IM Chapter 2, PDF handouts
- Optional: BPE Chapter 2 pp. (33-55, Envelope Theorem not required), Chapters 3 & 4
- Problems: See the ELMS/Canvas website

Week 3. Sept. 12 Demand Curves.

- Required: IM Chapter 3, PDF handouts
- Optional: BPE Chapter 5 & 6
- Problems: See the ELMS/Canvas website

Week 4. Sept 19 Uncertainty/Game Theory.

- Required: IM Chapter 4 & 5, PDF handouts
- Optional: BPE Chapter 7 & 8
- Problems: See the ELMS/Canvas website

□ **Saturday, Sept 23**

11:00AM-2:00 PM: Practice Exam and Review Session (Optional)

Week 5. Sept. 26 Graded Quiz (6:45-7:45PM) and Game Theory (cont.).

- Quiz 1 covers weeks 1 through 4 (uncertainty) only
- Required: IM Chapter 5, PDF handouts
- Optional: BPE Chapter 8
- Problems: See the ELMS/Canvas website

Week 6. Oct. 3 Production/Costs.

- Required: IM Chapter 6 & 7, PDF handouts
- Optional: BPE Chapter 9 & 10
- Problems: See the ELMS/Canvas website

Week 7. Oct. 10 Profit Maximization and Supply; Lagrange Multiplier Method

- Required: IM Chapter 8, PDF handouts
- Optional: BPE Chapter 11; Chiang sections 12.1-12.2
- Problems: See the ELMS/Canvas website

Week 8. Oct. 17 Perfect Competition and General Equilibrium.

- Required: IM Chapters 9 & 10, PDF handouts
- Optional: BPE Chapters 12 & 13; Chiang sections 3.1-3.4, Chapter 8
- Problems: See the ELMS/Canvas website

□ **Saturday, Oct. 21 11:00AM-2:00 PM: Practice Exam (Optional)**

Week 9. Oct. 24 Graded Quiz (6:45-7:45PM) and Market Failures: 1) Monopoly

- Quiz 2 covers weeks 6 through 8 and Game Theory only
- Required: IM Chapters 10 & 11, PDF handouts
- Optional: BPE Chapters 13 & 14
- Problems: See the ELMS/Canvas website

Week 10. Oct. 31 Market Failures: 2) Imperfect Competition.

- Required: IM Chapters 12, PDF handouts
- Optional: BPE Chapters 15
- Problems: See the ELMS/Canvas website

Week 11. Nov. 7 Market Failures: 3) Externalities and 4) Public Goods.

- Required: IM Chapters 16, PDF handouts
- Optional: BPE Chapters 19
- Problems: See the ELMS/Canvas website

Extra Credit:

Ch. 13: Pricing in Input Markets (Labor Supply)

Ch. 14: Capital and Time
Ch. 15: Asymmetric Information
Ch. 17: Behavioral Economics

Extra credit question posted after class on Nov. 7.

Answers to extra credit problem due with the final exam on Nov. 14.

Note: Extra credit will only be given if class' course evaluation response rate is above 80%.

□ **Saturday, Nov. 11**

12:00PM-1:00 PM: Practice Exam (Optional)

1:15-3:45PM: Review Session (Optional)

Week 12. Nov. 14 Final Exam (cumulative).

Practice Exams and Review Sessions

The Saturday practice exams and reviews are optional and will take place at our 16th Street suite. The practice exams will have a format very similar to the final exam. The problems on each practice exam will be restricted to the portion of the course's material covered since the previous practice exam. Students are encouraged to "take" the practice exam in one of our classrooms under "exam conditions".

After each practice exam, I will present a solution to each question on the practice exam. Time permitting, I will also field questions not directly related to the practice exam.

I will post each practice exam and its solution on ELMS after the fact, so they will also be available to study for students who do not attend the practice exams and review sessions.

Class Preparation

You are expected to read and study the material covered in the majority of the textbook throughout the course. Most students will need to read some of the passages multiple times to really master the material. **It is essential that you thoroughly read the chapters to be covered in any one class before coming to lecture**, and it is most likely that you will have re-read at least some of the material as you study to be able to keep on top of things.

Grading and Related Issues

*There will be no make-ups for any graded components unless you provide a **legitimate excuse in a reasonably timely fashion that abides to University protocols**. See the *Excused Absences* section at the end of this syllabus.*

Graded Course Components

There are 4 graded components to the course. The 4 components and their relative weights in the course grade are: presentations and online discussions (20%), homework (40%), quizzes (10%) and the final exam (30%).

1) In-class “Application” Presentations

The required textbook presents 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 interesting questions and/or policy challenges to think about.

We will use the textbook Applications as the starting points for student presentations that look a bit further into the issues they raise. The course schedule calls for about 2 presentations per week for 10 weeks. Each student will give a presentation at some point during the semester. If fewer than 20 students enroll in the course, we will simply have fewer student presentations. If more than 20 student enroll in the course, some students will need to present to me privately outside of class. Each presentation will be about 10 minutes long, as described below.

I will ask that students choose their presentation topic and date after the 1st class. This requires that students look ahead to the textbook Applications that will come throughout the whole semester.

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.

2) Homework

Students will turn in homework at the beginning of each class. The homework will always consist of 2 or 3 analytical problems. 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. This is also intentional. I'm sure you will learn a lot from studying the solution for a challenging problem. You must still write out your own version of the solution and turn it in.

The person 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 encouraged to work with each other on the homework, but each student must turn in his or her own work individually. Students who have obviously copied from each other will receive grades of zero for the problems in question.

3) Quizzes

The first hour of class on Sept. 26 and Oct. 24 will be devoted to an in-class quiz. The quiz will consist of 2 problems that are similar, but slightly more interesting, than the HW problems. The quiz will be closed book. Calculators are permitted, but no notes or other study aids of any kind will be permitted.

4) Final Exam

The final exam will consist of analytical problems that are similar, but more interesting than the homework problems. Anything covered at any point in the course is fair game for the final exam. In the end the exam will consist of 2 or 3 problems that happen to be focused on specific aspects of the course, but I will not announce ahead of time which aspects of the course the problems will relate to. Students are responsible for everything covered over the course of the entire term.

I will design an exam that I think should take 2 hours to complete, but students are welcome to use the entire class period from 6:45-9:30 if they like. The exam is closed-book. Calculators are permitted, but no notes or other study aides of any kind will be permitted.

Extra Credit and Additional Details Related to Grades

Extra Credit and 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. As an extra incentive for you to evaluate the course, I will offer an extra credit opportunity to the whole class if the course evaluation response rate exceeds 80%. I will not be able to see which students have evaluated the course, but we will all be able to see the overall response rate.

If the response rate exceeds 80%, I will offer an extra credit opportunity worth up to 3 course points (~3% of your overall course grade). Partial credit is possible (e.g. 2.5 out of the 3 possible points).

Assuming the response rate exceeds 80%, I will post the extra credit question after the final class prior to the final exam. To receive the extra credit, students must submit their answer along with their final exam. Students are expected to work out their own answers to the question individually. Students who have clearly copied from each other will receive no extra credit.

Grades Related to the In-class “Application” Presentations and Online Discussions

Complete drafts of PowerPoint presentations are due as email attachments by 7:00 p.m. on the Sunday before your presentation. Please send them to Shoffma8@umd.edu. I will send feedback by 5:00 p.m. on Monday. You need to revise your presentation based on my feedback and send the final version to me as an email attachment by 6:00 p.m. on the day of the presentation.

Student presenters should have a well-prepared presentation that lasts about 7 minutes. During these 7 minutes, the other students and I will only interrupt for brief clarifying questions. At the end of the 7-minute presentation, I will ask each student to write a well-formulated single-sentence question for the presenter on an index card. I will give the class about 1 minute for this task. As I collect the cards, I will ask the presenter one question of my own choosing. The presenter will have a minute or two to respond to my question. I will grade the presenter and the audience as follows:

Presentations will be graded according to the criteria specified in a grading rubric posted on the course's ELMS/Canvas site.

- The presenter will get 0-10 points for the quality of the initial presentation, and 0-3 points for the quality of his or her response to my question.
- Each student in the audience will get something between 0 and 2 points for the question on their index card. Students who have asked interesting and well-formulated questions will get 2 points. Students who ask a less interesting and/or less well-formulated question will get fewer than 2 points (1 or 1.5 points, perhaps). Students who are not present for the presentation will get zero points.

After each class I will post at least one question to a discussion board on the course's ELMS/Canvas site. The question(s) will be related to that evening's presentations. Everyone in the class – including the presenter – can discuss the posted question until midnight the following evening. Every student in the class will get something between 0 and 5 points based on my assessment of their contribution to the online discussion. (Grading rubric will be posted on the class' ELMS/Canvas site.) People who do not contribute anything of merit will get zeros. People who make insightful and constructive contributions will get 5's. (People who make inappropriate contributions in the online discussion forums will have to have an in-person discussion with me.)

At the end of the semester, I will average each student's scores for the index card questions (something between 0 and 2) and the online discussions (something between 0 and 5). I will add these to each student's presentation grade (something between 0 and 10) and the grade they got for their response to my post-presentation question (something between 0 and 3). So there are 20 possible course points related to the in-class student presentations. Before calculating the average

scores, I will throw out each student's 3 lowest index card scores, and 2 lowest online discussion scores.

With PowerPoint presentations, I usually estimate 1 slide per minute, fewer slides if you plan on talking extensively about a slide. Even as an experienced presenter, I always practice and time my presentation.

Homework Grades

Each homework problem will be worth some number of “raw points”. I will calculate the proportion of raw points that you earned on each problem. Homework problems that are not turned in on time receive a grade of 0. At the end of the semester, I will average your homework problem grades, giving each problem equal weight. I will multiply your average homework problem grade by 40. So there are 40 possible course points related to the homework problems. Before calculating the average HW grades, I will throw out each student's 3 lowest HW problem scores.

Quiz and Exam Grade

Each question will be worth some number of “raw points”. I will calculate the proportion of all the raw points that you earned on the exam and multiply that number by 10 for the quiz and 30 for the final exam. So there are 10 possible course points for the 2 quizzes and 30 possible course points related to the exam.

Final Course Grades

At the end of the semester I will simply add up each student's course points. This will be a number between 0 and 100 (or 103 if there's an extra credit opportunity). I do not grade on a curve. Numerical course grades will be translated into letter grades as follows:

93-103	A
90-92	A-
80-89	B+
70-79	B
60-69	B-
50-59	C+
40-49	C
30-39	C-
20-29	D+
10-19	D
0-9	F

I might give an A+ to a student or two at the very top of the class' grade distribution.

Standard Policies for the Program and the University of Maryland

Contact Hours: Three credit courses at the University of Maryland require a minimum amount of contact between instructors and students. Our courses' 12 weekly 3-hour 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 discussions. 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.

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.

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.

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.

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). Since our program is an evening program in downtown Washington, DC, rather than a day program in

College Park, we do not always cancel classes on the same days as the College Park campus. The program director will always 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.

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, and national origin. Reasonable accommodations will be made to students with documented disabilities. I will make every effort to accommodate students who are registered with the Disability Support Services (DSS) Office and who provide me with a University of Maryland DSS Accommodation form.

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 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.

Building Access: The door to the building at 1400 16th Street is unlocked on weekdays until 7:00 p.m. Students who arrive after 7:00 p.m. or on weekends will find the door locked. The building's security guard is stationed at a desk just inside the door until 11:00 p.m. and will let you in. You can also call the phone on the security guard's desk by dialing (202) 328-5158. If the security guard is off duty or happens to be away from his or her desk when you arrive, you can go around to the other door at 1616 P Street and pick up the black phone to the right of that door. You will be connected to the company that handles security for our building. If you tell them you are with the University of Maryland, they should ask you for a password. When you tell them the password, they will be able to unlock the door for you. You can get the password from the program coordinator, the TA, or the program director. Please note: the building security staff are not able to buzz you in at the 1400 16th Street door. You have to go around to the 1616 P Street door to be buzzed in.