### Econ 253: Intermediate Microeconomics, Spring 2021

Department of Economics, Oberlin College

Course Meets: Tuesdays & Thursdays, 11.10 – 12.25 pm,

King 306

Zoom link: https://oberlin.zoom.us/j/91243442634

#### **Contact Details**

Instructor: Prof. Henrique Veras E-mail: hveras@oberlin.edu Phone: (440) 775-8857 Office: Rice Hall 210 Office Hours: Tuesdays and Thursdays 02:00-04:00pm (via Zoom) Or by appointment Schedule an appointment <u>here</u>

### **Course Description**

Microeconomics is *micro* because it captures the motivation behind *individual* economic agents – person, household, firm or government – and how they interact. Microeconomics can help us answer questions like:

- As a kid, how and why did you allocate your allowance between saving and spending?
- How does knowing about consumer demands help firms make production decisions?
- Do markets always allocate resources perfectly? How might firms in an industry organize themselves, and how might that impact consumers?
- What happens when individuals find themselves in strategic situations when my well-being depends on the actions of someone else's actions in addition to my own?

These questions look familiar to everyone who's taken an Econ 101 course, but in this course, you will learn the value of building mathematical models to address them.

Mathematics allows us to build much more *precise* models and allow us to strip a model down to its most important components and interactions. It is crucial to remember that although models – especially those expressed mathematically – may seem overly simplistic at first, the art of being an economist is to impart economic meaning and conclusions to the equations, derivatives and graphs we derive.

#### **Course Learning Goals**

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

- Understand the theory behind models of consumer behavior, firm behavior and game theory.
- Master algebraic and calculus tools needed to work with these models and to understand policy implications.
- Apply concepts to new and possibly unfamiliar real-world situations.
- Understand how microeconomics acts as a fundamental foundation for further 300-level and 400-level courses.

#### **QFR Learning Goals**

This course can be counted towards the College's Quantitative & Formal Reasoning requirement. In this course, you will meet objectives of the QFR requirement by:

- Representation: You will learn how to translate real-life phenomena (e.g. firm behavior, consumer behavior) into quantitative models.
- Implementation: You will use calculus, algebra, graphing and other mathematical methods and tools to solve problems.

• Applications: You will make judgments, draw conclusions and discuss policy implications from quantitative models.

### Prerequisites

There are two prerequisites, both of which are essential. You're unlikely to pass the course without them.

The first prerequisite is that you must have completed a principles of economics course (Econ 101 or 102).

The second prerequisite is that you must have calculus proficiency at the MATH 133 level. You *must* be comfortable with the following from *Day* 1:

- What a derivative of a function represents (i.e., you understand it's the slope of a tangent line touching a function at a particular point);
- How to find the derivative of a function in one variable, for a variety of functions (polynomial, exponential, logarithmic, etc. Trigonometry is not necessary.);
- How to maximize or minimize a function in one variable using calculus.
- Algebraic manipulation and solving a system of equations.

If you're in doubt about your mathematical abilities for this course, please speak to me as soon as possible – don't wait until after add/drop.

#### **Textbook and Course Materials**

**Textbook**. The required textbook for this course is *Microeconomics: Theory and Applications with Calculus*, 5<sup>th</sup> edition, by Jeffrey M. Perloff (ISBN 978-0-13-518377-9). It is very important that your book is the version *with calculus*. You can buy the book from the college bookstore site or from the Pearson store.

There are older editions of the book for purchase on sites such as Amazon. You are welcome to use them, but I have not looked at them and cannot vouch for how similar they are to the fifth edition.

Blackboard. As a registered student, you should be able to view the Blackboard page for this course. This is the site where I will post lecture notes, assignments, additional study material and announcements for this course. It is your responsibility to check the site often. You can also check your grades.

Lecture notes will generally be posted in advance of the lecture we cover them in. I recommend that you print them out and bring them to class so that you can take notes on them. The notes tend to be *incomplete*, as we will fill in the missing graphs, math and text during the lecture. If you miss a lecture, it is your responsibility to find a classmate who attended class to fill in the blanks.

#### Grading

<u>In-class Activities (5%)</u>. There will be regular, unannounced in-class activities. These can take the form of a worksheet or small-group exercise. The activities are a way to gauge attendance, and so credit will generally be given for participation, also there may be some weight given to accuracy in certain activities. I will drop the lowest grade among these activities for the purposes of calculating your final grade.

<u>Assignments (15%)</u>. There will be about 4-5 assignments over the course of the semester. Each assignment carries equal weight. I will drop the lowest grade among your assignments for the purposes of calculating your final grade. You must submit your assignments through the platform Gradescope by the end of the due date (instructions and important information on Blackboard). Late assignments after 24 hours past the due date will NOT be accepted.

Lateness will be penalized according to the following rule:

Within 1 hour of lateness: 20% penalty.

After 1 hour (within 24 hours): 30% penalty.

After 24 hours: not accepted

Exceptions can be made for documented reasons.

You are permitted (and encouraged) to work in a group of three students or fewer on assignments, but please hand in your own assignments, especially in questions with a written component.

<u>Midterm Exam (25% each).</u> There will be two in-class, closed-book midterm exams. The first midterm will be held on **Tues., March 09, 2021**. The second midterm will be held on **Tues., April 13, 2021**. Exams are closed-book and can be a combination of multiple choice and short-answer questions. They will last 1 hour 15 minutes.

<u>Final Exam (30%)</u>. There will be a cumulative, closed-book final exam, which runs from **2** – **4 pm, Sun., May 09, 2021**. It is up to you to ensure that travel plans do not interfere with your ability to take the final.

Grade Breakdown: I plan to use the following point range for final grades:

A+ (98+)	B+ (87-89)	C+ (77-79)	D (50-69)
A (94-97)	B (83-86)	C (73-76)	F (o-50)
A- (90-93)	B- (80-82)	C- (70-72)	

Additionally, if the course average is below a B, I will increase grades so that the average is a B.

#### Attendance

Attendance is not taken in class (except when we do an in-class exercise), but repeated absences will put you far behind and affect your grade negatively.

If you have documented, verifiable and serious reason to miss an exam, you must provide the proof to me within 48 hours of the exam, or you will receive a zero for it. Depending on the reason for excused absence, you will either take a make-up exam, or the weight of a missed midterm will be shifted to the final exam. An excused absence for the final will be made up for according to the policy of the college.

#### **In-class Ethics**

- Laptops in the class are okay (although not recommended) for note taking in class.
- Laptops and cell phones are not to be used for other purposes, such as e-mails, text messaging, Facebook, etc. I don't go out of my way to look for violations, but if I happen to spot you repeatedly using your devices for non-authorized purposes, I reserve the right to ask you to turn the device off or to leave the classroom.
- Please contribute to classroom discussion, but try not to disrupt other students' learning by arriving late, leaving the classroom frequently, going off-topic with your comments, etc. If you must arrive late or leave early, please let me know if possible, and sit by the door.

#### **Help Outside of Class**

Please do not hesitate to see me in my office hours or make an appointment to meet with me to discuss any questions or comments you may have about the class. If you're having difficulty, please see me as soon as possible and don't wait until just before exam time.

For those who prefer working one-on-one, there are **tutors** available to help you with material in the course. These are students who have taken (and done well in) micro in the past. Please get in touch with the Student Success Center in Peters for more details.

### Honor Code

The College requires that students sign the Honor Code for all assignments. On each assignment that you submit, you must write "I have adhered to the Honor Code in this assignment" and sign your name in assent.

What are some examples of possible Honor Code violations?

- Sharing answers for homework assignments is dishonest. If you copy another student's answer, it is dishonest. But figuring out a difficult problem together or tutoring (explaining to another student how to get the answer) is not dishonest.
- Letting another student turn in your work as their own is dishonest.
- Using an unauthorized device or communicating with anyone during an exam is extremely dishonest.

All suspected violations of the Honor Code will be investigated, reported and taken seriously. If you believe you have witnessed an Honor Code violation by another student, you are reminded of your responsibility to file a report to the Student Honor Committee.

### **Students with Disabilities**

If you have specific physical, psychiatric or learning disabilities and require accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to the Office of Disability Services in Peters G-27/G-28.

### **Course Outline**

Caveat: The course outline and the textbook coverage (in brackets) are <u>subject to change</u> according to how fast or how slow I go. You will <u>not</u> be expected to read everything in the textbook, just what is relevant to material we cover in lectures.

#### Part 1: Theory of the Consumer

## WEEK 1:

Tues., 2 Feb.: Introduction to Micro [Ch. 1]; Supply and Demand [Ch. 2]. Thurs., 4 Feb.: Market Equilibrium; Elasticities [Ch. 2]

# WEEK 2:

Tues., 9 Feb.: Policy Interventions; Taxes; Ceilings & Shortages [Ch. 2]. Thurs., 11 Feb.: Consumer Preferences; Indifference Curves; Utility Function [Ch. 3].

### WEEK 3:

Tues., 16 Feb.: Utility Function; Budget Constraint [Ch. 3]. Thurs., 18 Feb.: Constrained Consumer Choice [Ch. 3].

### WEEK 4:

Tues., 23 Feb.: Behavioral Economics [Ch. 3]. Changes in Income on Demand [Ch. 4]. Thurs., 25 Feb.: Changes in Prices on Demand; Substitution and Income Effects [Ch. 4].

#### WEEK 5:

Tues., 2 Mar.: Consumer Welfare [Ch. 5]. Thurs., 4 Mar.: Consumer Surplus [Ch. 5].

### WEEK 6:

Tues., 9 Mar.: **Midterm Exam 1.** Thurs., **11** Mar.: Labor Supply Problem [Ch. 5].

### Part 2: Theory of the Firm & Theory of the Market

## WEEK 7:

Tues., 16 Mar.: Production [Ch. 6]. Thurs., 18 Mar.: Production; Costs [Ch. 6, 7].

## WEEK 8:

Tues., 23 Mar.: No class (Thanksgiving) Thurs., 25 Mar.: Costs [Ch. 7].

# WEEK 9:

Tues., 30 Mar.: Perfect Competition; Deriving Supply Curves [Ch. 8]. Thurs., 1 Apr.: Applications of the Perfect Competition Model [Ch. 9].

## WEEK 10:

Tues., 6 Apr.: MIDTERM EXAM 2 Thurs., 8 Apr.: Monopoly; Market Power [Ch. 11].

### Part 3: Interactions in the Market

### WEEK 11:

Tues., 13 Apr.: Pricing; Price Discrimination; Techniques of Market Power [Ch. 12]. Thurs., 15 Apr.: Game Theory; Static Games [Ch. 13].

# WEEK 12:

Tues., 20 Apr.: Game Theory; Sequential Games [Ch. 13]. Thurs., 22 Apr.: Oligopoly; Cartels; Cournot Model [Ch. 14].

# WEEK 13:

Tues., 27 Apr: Oligopoly; Stackelberg Model; Bertrand Model [Ch. 14]. Thurs., 29 Apr.: Asymmetric Information; Adverse Selection [Ch. 18].

## WEEK 14:

Tues., 4 May: Review.

Final Exam: Sunday, 09 May 2021, 2 – 4 pm.