Brown University  
ECON 1130, Intermediate Microeconomics (Mathematical)

Spring 2019  
Class meets Tuesdays and Thursdays, 10:30-11:50 a.m. Mandatory T.A. sections are Wednesdays at 7 p.m.

Professor: Roberto Serrano  
Office hours: Monday, 9:00 a.m. - 12:00 p.m. in Robinson Hall 201B  
Teaching Assistants: Zeky Murra (in lectures), and Jared Samilow, Oleg Semenov, and Patrick Wu (in sections)

1. Description of the course: this course will explore the decision making of economic agents (consumers and firms). It will also examine how different market mechanisms operate to allocate resources. We will begin by studying the theories of the consumer and the producer. Next we will combine both in the study of individual markets, including perfect competition, monopoly, oligopoly, etc. Following this study of individual markets, we will discuss how all markets interact in the economy and emphasize the good efficiency properties of the competitive system. The course will end with the analysis of some of the circumstances in which competitive markets fail to produce efficient allocations. The topics are mostly identical to those in ECON 1110, but their treatment is slightly more mathematical.

2. Prerequisites: ECON 0110 or equivalent, MATH 0100 or equivalent (univariate and ideally, multivariate calculus). Your willingness to work hard is by far the most important prerequisite.


4. Grading policy: the grade of the course will be divided into 20% for problem sets assigned each Tuesday of weeks with no midterm and due in the TA section the week after (ten assignments at 2% each), 20% for each of the two midterm exams in class (on Thursday February 21 and Thursday March 21), and 40% for the final exam (on Saturday May 11, 2-5 p.m.).

5. Other administrative matters: no late problem sets will be allowed for credit. Compensating for this hard-line policy, I will drop your worst problem set from the final average. No make-up midterm exams: if you have to miss one of the midterms due to an emergency, I will require an excused absence from a Dean and will reweigh your grade in the other exams appropriately. The final exam is cumulative and must be passed in order to pass the course.
6. Academic integrity: I expect you to uphold the highest standards in terms of academic integrity. I take cheating on assignments or exams very seriously.

7. Special accommodations: if, due to a certified disability, you require special accommodations, please contact me as soon as possible. I want to make sure that every student is included and given full access and opportunity in the course.

I hope you enjoy the course and learn a lot of microeconomics. Don’t forget: learning as much as you can should be your goal here, and this will only happen if you contribute your hard work.
Introduction


Part I. The Theory of the Consumer


Lecture 3. The budget set and the budget constraint. The consumer’s optimal choice: graphic, analytical, and Lagrange function methods. (From Chapter 3).

Lecture 4. The individual demand function. The income demand curve or Engel curve. Normal and inferior goods. The demand curve. Ordinary and Giffen goods. The inverse demand curve. The cross demand curve. Substitutes and complements. (From Chapter 4).


First midterm exam: February 21

Part II. The Theory of the Firm


Part III. Market Structures: Partial Equilibrium


Second midterm exam: March 21

Lecture 15. Oligopoly. Simultaneous choice of output (Cournot). Collusion. Comparison of the different models. (From Chapter 13).

Lecture 16. Sequential choice of output (Stackelberg). Simultaneous choice of price (Bertrand). (From Chapter 13).

Part IV. General Equilibrium


Lecture 18. The two fundamental theorems of welfare economics. Implications of the fundamental theorems of welfare economics. (From Chapter 15).


Part V. Failures of the Competitive Market

Lecture 20. Externalities. Solutions to the problem of externalities. (From Chapter 17).


Cumulative final exam: May 11

**Estimates of time allocation:** The following is an estimate of the time allocation required for the course. Needless to say, following these estimates is neither necessary nor sufficient to do well in the course. That is, there will be students able to master the material perfectly with fewer hours, while on the other hand, arguing to the instructor that one has spent the suggested hours on the course will not be a consideration to determine the final grade. With these caveats, here are the estimates. Over 14 weeks, students will spend 3 hours per week in class (42 hours total), and 1 hour per week in discussion section (14 hours). Homework, reading, and studying for the midterm examinations will take approximately 7 hours per week (98 hours total). In addition, there is a 3-hour final exam for which approximately 25 hours of review—5 hours for each of 5 days—is assumed.