

Economics 121: Intermediate Microeconomics

Yale University, Department of Economics

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1 Course Description

This course covers the major theories of microeconomics. It will consider benchmark economic models of consumer and firm behavior. The primary paradigm for these models is the constrained optimization of objective functions (e.g. utility or profit) together with equilibrium conditions (e.g. market clearing or Nash equilibrium.) Students will gain a deeper understanding of the economic aspects of consumer and firm behavior. The academic objective of this course is two-fold: this course will teach the fundamental theoretical tools used to formulate and solve economic models and develop students' ability to apply these tools to a variety of economic problems. This course will often motivate the analysis of economic concepts using case studies or empirical facts, with an eye towards both the explanatory power and limitations of the models taught in this course.

Topics include consumer preferences and utility theory; demand relationships among goods; savings; labor supply; behavior of firms; perfect competition and general equilibrium; theory of monopoly and oligopoly, including elementary game theory; public good and externalities; uncertainty and risk; and moral hazard and adverse selection.

2 Prerequisite

A course in introductory microeconomics (Economics 110 or 115) and a course in mathematics at the level of calculus or higher (Math 112, 115, 118, or 120) are prerequisites for this class. Multivariate calculus may be helpful, but is not required.

3 Course Requirements

3.1 Meeting Times

Class will be held on Zoom: **Mondays and Wednesdays from 9am-12:15pm**

Office Hours: **TBA**

3.2 Problem Sets

Problem sets will be assigned every week. They are a critical component of the course. Working through the problem sets is the key to understanding the course material. This is particularly true given the compressed

timeline of the Summer Session, where some topics and applications may receive only limited treatment in lectures. Problem sets are also the best preparation for the midterm and final exams.

Teamwork is encouraged in problem sets, however solutions must be written up and submitted individually. Show your work fully, as demonstrating understanding of the economic concepts and mathematical techniques will be more important for your grade (and your success in the course) than executing all computations without error.

3.3 Midterm Exam

A take-home exam will be assigned at the end of class in the 2nd week (tentatively June 16.) This exam will cover all material from the first two weeks. Other than the time constraint, the format will be similar to the problem sets, with a mix of computational exercises and more conceptual short-answer questions.

You may consult your notes, course materials, or readings. If you do so, please cite these materials in your answer. Collaboration or consultation of any kind with other students on the exam is strictly forbidden.

3.4 Final Exam

The final exam will be cumulative, with an emphasis on material covered after the midterm.

3.5 Participation

Summer Session courses are intense and even a single absence may make it difficult to keep up. Attendance will be taken at the beginning of each class. Unexcused absences will negatively impact your final grade. Participation in in-class discussion or office hours may also factor into your final grade.

3.6 Academic Integrity

Violations of academic integrity as described in the Yale College Undergraduate Regulations 2020-21 will be taken seriously. For considerations of equity and enforcement, all cases of academic dishonesty will be referred to the Yale College Executive Committee.

3.7 Grading

The course grade will be the weighted average of the following:

Problem Sets: 30%

Midterm Exam: 30%

Final Exam: 30%

Participation: 10%

The distribution of grades in this class will be approximately the following:

A (50%, of which about 1/3 will be straight A's)

B (45%, most of which will be straight B's, with a few B+ or B-)

C and lower (up to 5%, with grades lower than C being rare.)

In these calculations, students who withdraw after the second week will remain in the distribution. Students who demonstrate mastery of the material will receive A's regardless of other students' performance. If all students complete all course requirements and demonstrate satisfactory understanding of the material, no grades below B will be given.

4 Readings

The primary readings for this course will be the lecture notes. These notes will be posted well in advance of the corresponding lectures, and it is essential that students read them and come to class familiar with the material and prepared to ask questions.

Selected readings from research or case studies may also be assigned. For additional reference, a good textbook is: *Goolsbee, Levitt, and Syverson, Microeconomics* (*Worth Publishers*)

5 Course Outline

The course will meet Mondays and Wednesdays. A sketch of topics that we will cover is as follows:

June 7: Course introduction and overview. Preferences and introduction to optimization.

June 9: Utility maximization and demand. Properties of demand, including complements and substitutes and inferior and normal goods. **Problem Set 1 due**

June 14: Expenditure minimization and the dual problem. Income and substitution effects.

June 16: Competitive equilibrium in exchange economies. **Problem Set 2 due**

Midterm Exam

June 21: The firm's problem. Profit maximization, cost minimization, and supply curves.

June 23: Competitive equilibria with production. **Problem Set 3 due**

June 28: Market power overview. Monopoly. Deadweight losses and price discrimination.

June 30: Nash equilibria. Oligopoly models. Mergers and cartels. **Problem Set 4 due**

July 5: Uncertainty and risk: Expected Utility and insurance

July 7: Information: Adverse selection and moral hazard. **Problem Set 5 due**

Final Exam