

## Syllabus

Summer 2022

### Course description:

Economics is the study of production and allocation of scarce resources, and how agents make decisions under conditions of scarcity and uncertainty. This course provides a rigorous introduction to economics, with special emphasis on microeconomics. We will introduce economics as a discipline and as a way of thinking.

We will first study the behavior of individual consumers and firms. Then we will provide insight into how markets work and whether market outcomes are desirable. We will also look at situations in which the firm is a monopolist, or competes with a limited number of rivals. Some of the key concepts we will introduce include economic incentives, marginal analysis, opportunity cost (which costs matter), market efficiency (what does it mean for a market to work) and strategic behavior (how to predict and respond to your rivals' decisions).

The tools you will learn in this class are fundamental for most upper division courses of the Economics major as well as classes in Finance, Accounting and Marketing.

### Teaching fellows:

Chitra Marti ([cm4401@stern.nyu.edu](mailto:cm4401@stern.nyu.edu))

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**Textbook:** Robert S. Pindyck, and Daniel L. Rubinfeld: *Microeconomics* (9<sup>th</sup> Edition), Prentice-Hall Series in Economics. The book is available at the NYU Bookstore.<sup>1</sup>

**Course Site:** The course's website can be found on Brightspace. We will run all communication through this site, and you can post comments on assignments and lectures here. There you will be able to find:

1. Lecture notes
2. Problem sets and solution keys
3. Sample exams
4. Announcements

**Prerequisites:** This course assumes familiarity with multivariate calculus and high-school algebra. In addition, we will have a review section on most essential mathematical tools.

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<sup>1</sup> Previous editions will work as well, provided you follow carefully any differences in chapter contents.

**Teaching Fellow Sessions:** In addition to our lectures, a Teaching Fellow (TF) will conduct a recitation once a week.

**Grading:** Your grade will be determined by the following:

Homework assignments	15%
Class participation	15%
Midterm	35%
Final	35%

**Class attendance and professionalism:** You should come to class prepared to discuss assigned topics. Your thoughtful participation makes the course more interesting and productive for everyone, including your instructors.

You can contribute to the course by:

- Listening attentively in class and attending discussion sections.
- Advancing the discussion by contributing insightful comments and questions.

**Homework Assignments:** There will be 5 homework assignments. Homework assignments will consist of problems and short-answer questions based on the material presented in class. The objective of these assignments is to give you the opportunity to practice the concepts. We will not accept late assignments.

**Class participation:** It is important to integrate what you learn and be able to express it effectively. Moreover, there is a great deal of collective insight and experience in the class, and we all benefit from sharing it. But the *quality* of your contributions is more important than the *quantity*. Your attendance, punctuality (even on Zoom!), and overall citizenship in class are all also relevant dimensions of your participation performance. Note that you will be graded based on your participation during lectures only.

**Examinations:** There will be a midterm and a final (take-home) exam. Tests are written and are open book. They will consist of problems similar to the ones in the problem sets, including short-answer questions. The final exam will not be cumulative.

**No Make-up Exams:** If you miss the midterm for a justified reason and provide sufficient evidence, your final score will be counted instead of the midterm exam. If you miss the midterm for any other reason, you will receive a score of 0. If you miss the final exam for a justified reason, you will receive an incomplete, which must be removed in the earliest possible semester.

**Errors:** The TFs and I will make every effort to grade fairly, but some errors in grading may occur. Please check your exams and in case of grading errors, please return your exam to the grader with a written note explaining where the error is. The entire exam will be re-graded in the case of a re-grade request.

**Inclusive Learning Environment:** This course strives to support and cultivate diversity of thought, perspectives, and experiences. The intent is to present materials and activities that

will challenge your current perspectives with a goal of understanding how others might see situations differently.

By participating in this course, it is the expectation that everyone commits to making this an inclusive learning environment for all. If at any time you feel that our classroom learning environment is not inclusive, please let me know. I welcome the opportunity to speak with you.

## Stern Undergraduate College Policies

### Academic Integrity:

Our undergraduate [Academics Pillar](#) states that ***we take pride in our well-rounded education and approach our academics with honesty and integrity.*** Indeed, integrity is critical to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:

- Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.
- Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.
- Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

The entire Stern Student Code of Conduct applies to all students enrolled in Stern courses and can be found here: [www.stern.nyu.edu/uc/codeofconduct](http://www.stern.nyu.edu/uc/codeofconduct)

To help ensure the integrity of our learning community, prose assignments you submit to NYU Brightspace will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived Web pages, periodicals, journals, and publications. Additionally, your document will become part of the Turnitin database.

### General Conduct and Behavior:

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with Stern's Policy in Regard to In-Class Behavior & Expectations (<http://www.stern.nyu.edu/portal-partners/current-students/undergraduate/resources-policies/academic-policies/index.htm>) and the NYU Student Conduct Policy (<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>).

## Grading Guidelines:

At NYU Stern, we strive to create courses that challenge students intellectually and that meet the Stern standards of academic excellence. To ensure fairness and clarity of grading, the Stern faculty have adopted a grading guideline for core courses with enrollments of more than 25 students in which approximately 35% of students will receive an “A” or “A-” grade. In core classes of less than 25 students, the instructor is at liberty to give whatever grades they think the students deserve, while maintaining rigorous academic standards.

## Student Accessibility

If you will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for Student Accessibility (212-998-4980, [mosescsa@nyu.edu](mailto:mosescsa@nyu.edu)) verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the Moses Center for Student Accessibility, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation. For more information, visit the CSA website: <https://www.nyu.edu/students/communities-and-groups/student-accessibility.html>

## **Reading List and Tentative Course Schedule**

### Week 1:

#### Tuesday May 24:

Introduction and Preliminaries: What is economics? The study of how a society uses its limited resources to produce, trade, and consume goods and services.

Chapter 1: pp. 3-19, Sections 1.1, 1.2, 1.3, 1.4

The Basics of Supply and Demand. The demand curve describes consumers' choice, while the supply curve describes how much firms will produce. Equilibrium of supply and demand through price.

Chapter 2: pp. 22-48, Sections 2.1, 2.2, 2.3, 2.4, 2.5

Problem Set 1 Assigned (Due May 31, 9 am)

#### Thursday, May 26:

Consumer Behavior (1): preferences and their representation by a utility function. How do consumers make a decision given the alternatives that are available?

Chapter 3, pp. 67-81: Section 3.1

Consumer Behavior (2): Utility and budget constraints.

Chapter 3, pp. 82-86: Section 3.2

### Week 2:

#### Tuesday, May 31

Consumer Behavior (3): utility maximization. How do consumers maximize their utility given the budget constraint. The use of utility maximization to derive Marshallian demand curves.

Chapter 3, pp. 86-92, 95-100: Sections 3.3, 3.5

Individual Demand: Study how utility maximizing choice of a good varies as Income Changes (Engel Curve), and as the price of the good itself changes (Demand Curve).

Chapter 4, pp. 109-122, Sections 4.1, 4.2

Problem Set 2 Assigned (Due June 7, 9 am)

### Thursday, June 2:

Market Demand: add up individual demands to get market demand. Discuss Elasticity of Demand, the responsiveness of demand to price.

Chapter 4, pp. 122-132, pp. 137-141, Sections 4.3, 4.4, 4.6. Chapter 2, pp. 33-39, Section 2.4

Production: We introduce firms and how they decide to produce. A firm is described by how it can transform inputs such as labor and capital into outputs, which is called a production function. We also discuss marginal versus average product of labor and capital. Production with two inputs. The tradeoff between using more labor or capital is called the marginal rate of technical substitution. As well we discuss returns to scale, i.e. are larger plants more productive?

Chapter 6, pp. 188-212, Sections 6.1, 6.2, 6.3, 6.4

### Week 3:

### Tuesday, June 7:

The Cost of Production: We discuss the difference between sunk costs and fixed costs and costs in the short run versus the long run.

Chapter 7, pp. 215-245, Sections 7.1, 7.2, 7.3, 7.4, Appendix 7 pages 261-265

Profit Maximization and Competitive Supply. We look at the firm's decision to produce in a perfectly competitive market. If a firm is maximizing profits, then it sets marginal costs equal to marginal revenue.

Chapter 8, pp. 267-283, Sections 8.1, 8.2, 8.3, 8.4, 8.5

### Problem Set 3 Assigned (Due June 9, 9 am)

### Thursday, June 9:

The Analysis of Competitive Markets. We use the tools of Consumer and Producer Surplus to analyze the effect of a tax or rent control on the efficiency of a market. Pareto Efficiency.

Chapter 9, pp. 305-319, pp. 333-340, Sections 9.1, 9.2, 9.3, 9.6

Midterm Review

### Week 4:

### Tuesday, June 14:

Midterm Exam (first part of class)

Externalities and Public Goods. In many situations your actions affect others indirectly. Does this affect market efficiency? We will talk about the failure of several fisheries due to the externality problem.

Chapter 18, pp. 653-670, pp. 681-687, Sections 18.1, 18.2, 18.5, 18.6

Problem Set 4 Assigned (Due June 23, 9 am)

Thursday, June 16:

Market Power: Monopoly and Antitrust. We analyze firms with market power that do not take the market price as given but can choose the price of their products. The social cost of monopoly and laws against monopoly.

Chapter 10, pp. 347-372, Section 10.1, 10.2, 10.3, 10.4

Pricing with Market Power. We look at Price Discrimination, the practice of setting different prices for different types of consumers (such as student discounts or quantity discounts).

Chapter 11, pp. 391-402, Sections 11.1, 11.2

Week 5:

Tuesday, June 21: No class (legislative day)

Thursday, June 23:

Choice under Uncertainty. Expected Utility and Risk Preferences. How do we make choices when certain variables such as income and prices are uncertain (making choices with risk)?

Chapter 5, pp. 158-174, Sections 5.1, 5.2, 5.3

Game Theory (I): Simultaneous Moves. We examine strategic decision-making, when you are interacting with a competitor. We look at dominant strategies and a solution concept called Nash Equilibrium.

Chapter 13, pp. 479-490, Sections 13.1, 13.2, 13.3

Problem Set 5 Assigned (Due June 28, 9 am)

Week 6:

Tuesday, June 28:

Game Theory (II): Games Trees, Commitment & Threats. We look at sequential games in this lecture and the strategic role of commitment and threats.



Chapter 13, pp. 495-508, Sections 13.5, 13.6, 13.7

Oligopoly: We examine how firms set price or quantity when they have a single competitor (Bertrand and Cournot Competition)

Chapter 12, pp. 448-460 Sections 12.2, 12.3

Take-home final exam released (due July 5, 9 am)

Thursday, June 30:

Asymmetric Information: Adverse Selection & Moral Hazard. Frequently one person in an economic relationship has more information than another party. How does asymmetric information affect economic outcomes?

Chapter 17, pp. 624-644, Sections 17.1, 17.2, 17.3, 17.4

Week 7:

Tuesday, July 5:

Applications of Game Theory: Auctions

Chapter 13, pp. 508-516, Section 13.8

Course wrap-up