Econ 80 - Microeconomic Theory Syllabus

Cansu Isler*

Summer 2025- Session II

1 Course Information

Instructor: Cansu Isler

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Office Hours: M,F 6:00 AM-7:00 AM **Class Time:** T,W,Th 6:00 AM-8:30 AM

Teaching Assistant: TBA

This course will be taught remotely via **Zoom** at the class times specified above. The Zoom link for the course will be available on Moodle. **Class sessions will be recorded and uploaded to Moodle** within 24 hours after each class. **Attendance is NOT required but strongly encouraged**. Students may choose to watch the recordings if they find this more efficient. Learning the course material is the student's responsibility. However, **students must be present for exams**. If they

2 Course Decription

2.1 Course Decription

This course will introduce students to the basic analytic tools to understand the behavior of individuals and firms, and analyze their interaction in the market. We will cover the application of consumer theory, the theory of the firm, general equilibrium, game theory, and oligopolistic markets. By the end of the class, you should be equipped with the necessary skills to approach real-world economic and public policy questions in a rigorous way. For more information on major requirements, please see the Economics Department Advising Information for Students and the Department webpage for more information on the Economics major and minor.

^{*}I thank Professors Ryan Westphal, Jingyi Huang, Benjamin Shiller, and Amelia Hawkins for generously letting me borrow from their syllabi. I reserve the right to tweak this syllabus as the needs of the class change.

2.2 Learning Goals

- 1. Apply microeconomic principles and models to evaluate economic policy and news
- 2. Construct consumer and producer demand and supply functions
- 3. Identify and derive the relevant costs in analyzing consumer and producer behavior
- 4. Solve constrained optimization problems
- 5. Analyze perfect and imperfectly competitive markets
- 6. Describe how producers with market power determine prices and quantities

2.3 Prerequisites

- Math requirement: You MUST have either (a) successfully completed Math 10A (C- or higher), (b) attained at least a 4 on the AP Math AB test, (c) received at least a 3 on the AP Math BC test, or (d) passed the calculus placement exam that the Economics Department administers. See the Department's Advising Information for more details.
- Economics requirement: You must have either (a) taken Econ 10A, or (b) taken Econ 2A and received a B+ or higher.

3 Course Materials and Communication

The textbook is NOT required but is strongly recommended. The instructor will share the lecture notes.

• **Textbook:** Goolsbee, Levitt, and Syverson, Microeconomics, 2nd or 3rd edition. A copy of the textbook should be on reserve in the library.

If you are having difficulty purchasing course materials, please make an appointment with your Student Financial Services or Academic Services advisor to discuss possible funding options and/or textbook alternatives.

Supplementary materials will be posted on Moodle on a topic-by-topic basis. It is important to note that for this course students are required to keep abreast of US and International Economic News. The following are examples of news sources: The Economist, The New York Times, and The Wall Street Journal

Official communication about the course will be via Moodle. It is your responsibility to check your University e-mail and Moodle regularly for any course updates or announcements. Email is the best way to reach me, and I'll try my best to respond to your email within a business day.

4 Course Requirements and Evaluation

4.1 Credit Hours and Workload

Success in this four-credit course is based on the expectation that students will contribute a minimum of 9 hours of study time per week in preparation for class.

4.2 Evaluation and Letter Grades

Final letter grades will be curved based on scores calculated as follows.

- 1. Problem Sets(2) 20% (each 10%)
 - To assist students, problem sets will be distributed before each exam. Students can expect exam questions to cover similar concepts.
 - You are encouraged to collaborate with classmates on problem sets. However, each student must submit their own completed work and clearly indicate the names of collaborators.
 - Problem sets must be submitted as legible PDF files through Moodle.
 - Solutions will be posted by the instructor after all submissions have been received.
 - Students with an accommodation letter from SAS will have an additional 12 hours to submit assignments.
 - Problem sets must be submitted on time. Late submissions will NOT be accepted, and this policy is not negotiable due to the tight summer course schedule.
 - Problem sets will be graded based on correct completion. Grading takes time, so if grades and feedback are not available before the exam, students should refer to the posted solution sheet.
- 2. Midterm (TBA) 25%
- 3. Final Exam (TBA) 40%
- 4. Short project 15%. Each student will select a newspaper article and write a short report (1–2 pages) explaining the news using concepts learned in class. The report should include relevant graphs or clearly demonstrate the application of the economic concepts discussed during lectures.

4.3 Course Policy

• Virtual Classroom Etiquette: During classes and for all meetings with the instructor, students are encouraged to keep their cameras on. Brandeis University is committed to providing its students, faculty, and staff with an environment conducive to learning and working and where all people are treated with respect and dignity. Please refrain from behavior that is disruptive to the class or your classmates.

• Exam Policy

- Missing Exam: Students who are unable to take their final examinations for legitimate reasons and wish to request a make-up exam must obtain advance authorization from the Office of Academic Services. If a student is absent without excuse from the exams and does not obtain authorization for a make-up examination, the student will be given a grade of zero on the exam. See Academic Regulations for more details.
- During Exam: During exams, you may consult the instructor/proctor administering the exam if you need clarification of exam questions. No discussion or other form of communication with anyone else will be permitted after the exams have been handed out until all students have submitted their exam. Students found to have cheated or engaged in any other unethical behavior will be given a grade of 0 on the examination involved and will be turned over to the appropriate disciplinary committees within Brandeis University for further action.
- Questions about Grading: Students should not be discouraged from pursuing questions about their grades. This policy is intended only to protect the impartiality of the grading process. You have two days after the exams has been returned to request a regrade.
- Exam Reschedule: Students are permitted to reschedule a final exam if they meet the Registrar's criteria. Students who qualify to reschedule a final exam should follow the instructions from the University Registrar Office.

5 Course Plan

1. Introduction and Math Camp

Introduction to the course, a discussion of markets, and review of concepts GLS Chapter 1

2. Supply and Demand

Review of elasticities, cross price elasticities. Using demand and supply curves. Consumer and producer surplus. Government interventions. GLS Chapter $2,\,3$

3. Consumer Demand

Consumer preferences, utility functions and indifference curves, Marginal Rate of Substitution, budget constraints, consumer choice, and consumer optimization, revealed preference.

GLS Chapter 4

4. Derive Demand Functions

Derivation of individual demand from utility maximization, income and substitution effects, market demand; Derivation of individual demand from expenditure minimization the Slutsky equation GLS Chapter 5

5. Producer Behavior

Production functions, production with 1 input, 2 inputs, isoquants, Marginal Rate of Technical Substitution GLS Chapter 6

6. Cost Functions

Cost functions, isocost lines, cost minimization problem. Supply-side and firm decisions. Different types of production costs, cost minimization problem, economies of scale.

GLS Chapter 7

7. Perfect Competition and Monopoly

Profit maximization. Monopoly and Monopsony. Markets with only one firm. Sources of monopoly. The monopolist problem. GLS Chapter 8, 9

8. Price Discrimination

Non-uniform pricing strategies for firms with monopoly power. GLS Chapter 10

9. Game Theory and Oligopoly and Imperfect Competition

Game Theory

Markets with few firms, quantity setting, price setting GLS Chapter 11,12

10. General Equilibrium

Multiple intersecting markets, gross substitutes, gross compliments. Social welfare function, production, consumption, and total efficiency. Equity and efficiency. Edgeworth boxes.

GLS Chapter 15

6 University Policies and Resources

6.1 Academic Honesty

You are expected to be familiar with, and to follow, the University's policies on academic integrity. You are expected to be honest in all of your academic work. Please consult Brandeis University Rights and Responsibilities for all policies and procedures related to academic integrity. Allegations of alleged academic dishonesty will be forwarded to Student Rights and Community Standards. Sanctions for academic dishonesty can include failing grades and/or

suspension from the university. Citation and research assistance can be found on the university library website.

6.2 Accommodations

Brandeis seeks to create a learning environment that is welcoming and inclusive of all students, and I want to support you in your learning. If you think you may require disability accommodations, you will need to work with Student Accessibility Support (SAS). You can contact them at 781-736-3470, email them at access@brandeis.edu, or visit the Student Accessibility Support home page. You can find helpful student FAQs and other resources on the SAS website, including guidance on how to know whether you might be eligible for support from SAS.

If you already have an accommodation letter from SAS, please provide me with a copy as soon as you can so that I can ensure effective implementation of accommodations for this class. In order to coordinate exam accommodations, ideally you should provide the accommodation letter at least 48 hours before an exam.

6.3 Student Support

Brandeis University is committed to supporting all our students so they can thrive. If a student, faculty, or staff member wants to learn more about support resources, the Support at Brandeis webpage offers a comprehensive list that includes these staff colleagues you can consult, along with other support resources:

- The Care Team
- Academic Services
- University Ombuds
- Office of Equal Opportunity