

ECO 303.02: Intermediate Microeconomic Theory

Fall 2024

Instructor Information

Instructor: Siyuan Lyu
Office: N602-A, Social and Behavioral Sciences Building
Email: siyuan.lyu@stonybrook.edu
Office Hours: Thursday 9:30 AM – 12:30 AM

Graduate TA: Hualong Diao
Office: N604, Social and Behavioral Sciences Building
Email: diao.hualong@stonybrook.edu
Office Hours: Monday 2:30 PM – 4:30 AM

Class Information

Dates: August 26, 2024 – December 19, 2024

ECO 303.02 Lecture

Time: Monday/Wednesday 11:00 AM – 12:20 PM
Classroom: Melville Library E4320

ECO 303.R03 Recitation

Time: Monday 8:00 AM – 8:55 AM
Classroom: Melville Library N3063

ECO 303.R04 Recitation

Time: Monday 9:30 AM – 10:25 AM
Classroom: Melville Library E4330

Course Description

The course introduces the concepts and tools of microeconomics following Introduction to Economics. In particular, the course analyzes problems faced by consumers, firms, and the market using mathematical induction. By the end of the course, the students could be able to apply the language and methods of modern economic theory to practical economic phenomena. The material included in the course is also helpful for upper-level economics courses. *Prerequisites:* C or higher in ECO 108; C or higher in MAT 125 or AMS 151.

Course Objectives

After this course, you should be able to . . .

- Understand the tools, concepts, and theories of microeconomics and apply them to certain economic problems.
- Understand the consumer's utility maximization problem and the related analysis.

- Understand the firm's profit maximization problem, cost minimization problem and the related analysis.
- Apply demand and supply theories to analyze the dynamics in competitive markets.
- Analyze monopoly behaviors and compare them with competitive markets.
- Understand the basic concepts of game theory and apply them to related problems.

Textbook and Calculators

The textbook is *Microeconomics (9 th editions)* by Jeffrey Perloff, and we will use MyLab for homework assignments.

Calculator: You will need a scientific calculator to do the computations that will arise throughout the homework and exams. No specific calculator is required; however, a graphing calculator is not allowed during the exams.

Grading

The course grade is determined by the following components:

Midterm 1	35%
Midterm 2	35%
Homework	30%
Optional Final Exam	35%

Homework

Homework assignments are in MyLab and I will also post the links on Brightspace. The homework will be discussed in the recitations. It is very important that you work on them independently because they train you to conduct the analysis step by step and will appear in the exams.

Exams

There are two midterm exams and one optimal final exam. **I will not offer make-up exams.** Please mark your calendar to avoid conflicts. If you miss a midterm exam, your grade for that exam is zero and you **must** take the final exam. Midterm exams are not cumulative and each exam accounts for 35% of the final grade. The optional final exam is cumulative and accounts for 35% of the final grade. If you take all three exams, your grade for the course will be calculated based on the **two** exams with the **highest** grades. If you only take two exams, your grade will be based on those two exams.

Student Accessibility Support Center Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are

necessary and appropriate. All information and documentation is confidential.

Academic Integrity Statement

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html.

Critical Incident Management

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Tips for Success

- Be proactive about your success in the course.
- Attend every class and recitation.
- Ask questions whether it is during class, recitation, office hours, or via email to your instructor.
- Working together will help you and others better understand the course material as you can work through different difficulties and offer each other clarifications on concepts.
- Do problems. Reading through your notes is not enough. Seek out new problems and work through them carefully. When you are done, check your answer. If you are wrong, examine carefully what misunderstanding occurred and how to avoid it in the future. If you were correct, examine if there was a faster way, check to see if your solution 'flowed' and was easy to read, and think over what concepts/computations were used and what 'type' of the problem the exercise was.
- Every time you approach a new concept, carefully think how it could be applied in practical economic problems.

Important dates

Midterm 1: October 9th, 11:00 AM – 12:00 PM

Midterm 2: December 9th, 11:00 AM – 12:00 PM

Final: December 18th, 11:15 PM – 12:45 PM

All the exams are located in the same classroom as the lecture, Melville Library E4320 unless otherwise notified.

Tentative Schedule

The following is a *tentative* schedule for the course.

Date	Topics	Chapters in Perloff
08/26	Introduction; Supply and Demand	2
08/28	Supply and Demand	2
09/02	<i>Labor Day</i>	
09/04	Supply and Demand	2
09/09	Applying the supply and demand	3
09/11	Applying the supply and demand	3
09/16	Consumer choice	4
09/18	Consumer choice	4
09/23	Applying consumer choice	5
09/25	Applying consumer choice	5
09/30	Firm and production	6
10/02	Firm and production	6
10/07	Review for Midterm 1	
10/09	Midterm 1	
10/14	<i>Fall Break</i>	
10/16	Costs	7
10/21	Costs	7
10/23	Competitive Firms and Markets	8
10/28	Competitive Firms and Markets	8
10/30	Competitive Firms and Markets	8
11/04	Applying the competitive model	9
11/06	Applying the competitive medel	9
11/11	Monopoly	11
11/13	Monopoly	11
11/18	Pricing and Advertising	12
11/20	Pricing and Advertising	12
11/25	Game Theory	14
11/27	<i>Thanksgiving break</i>	
12/02	Game Theory	14
12/04	Game Theory; Review for Midterm 2	14
12/09	Midterm 2	