



SYLLABUS

COURSE DESCRIPTION

The goal of this course is to give you some insight into how markets work. The first part of the course starts with the study of decision making by consumers and firms and concludes with a fundamental result in economics: a set of conditions under which markets function efficiently. In the second part of the course, we focus on situations when, for one reason or another, markets don't work efficiently. We will emphasize the importance of strategic behavior, as modeled by game theory.

Microeconomics (as the topic of this course is frequently referred to) is an important component of an MBA program. First, microeconomics focuses on specific dimensions of optimal firm decision making, such as pricing and entry and exit. Second, the formal economics perspective on business plays an important role in other areas of MBA study, such as finance, strategy, and marketing. Finally, by studying public policy towards market failures, microeconomics highlights important factors conditioning firm strategy.

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), strategic behavior (how to predict and respond to your rivals' decisions), and asymmetric information (what happens when others know something you do not). Our experience with students in prior years is that much of this is intuitive. But much is not, and our hope is that the combination of theoretical structure and practical examples will be useful in the years to come. It will not make you a success on its own, but it might give you an edge a few times when it matters.

PREREQUISITES

In this class, you are expected to be comfortable with basic algebra and calculus. If you struggle with these, you may consider investing in a graphing calculator (e.g., TI-89) that can take derivatives for you. To be successful, you should be able to *graph an equation*, especially a linear equation; *solve a system* of two linear equations and two unknowns; *compute the derivative* of a simple function; *find the maximum* or minimum of a function using derivatives; and *calculate the NPV* of a stream of payments.

COURSE MATERIALS

- *Course pack.* These supplementary notes review the theory relevant to most classes. In a few pages, they outline and explain the key concepts, define terms, give examples, and (where it makes sense) work through numerical problems. They are intended to complement the lectures rather than substitute for them.
- *Textbook.* This course **does not** require or use a textbook. If you insist on having a reference text, I recommend using a recent (8th, 9th, or 10th) edition of Michael Baye's *Managerial Economics and Business Strategy*. Some students indicate that they find this book helpful.

- *Slides.* I will post the slides on NYU Brightspace before each class, but keep in mind that the slides are not a complete record of all that is discussed in class. I recommend that you take notes during the class as a supplement to the slides.
- *Additional materials.* I will occasionally post additional materials on NYU Brightspace. This will include some useful materials for the group presentations, and potentially other newspaper articles or research papers that might be interesting or relevant.

DELIVERABLES

The various deliverables in the course are designed to develop different skills:

- *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, and overall citizenship in class are all also relevant dimensions of your participation performance.
- *Individual problem sets.* Problem sets emphasize quantitative applications of the principles and tools developed in class. They are due at the start of class. You are expected to hand these in and to make a reasonable attempt at each question; failure to do so will be penalized.

Most of the problems are quantitative, while some are qualitative and may not have definitive “right” or “wrong” answer—it is understanding the underlying issues that is key. You should also note that the problem sets are the best preparation for the exams. Dates and deadlines for all assignments can be found in the detailed course outline.

I encourage you to tackle these problem sets in groups with your classmates; there is much we can learn from each other’s different experiences, perspectives, and approaches. Note, however, that the final work product submitted for grading should be your own.

- *Group work.* Working with classmates will be an important component of the course, as there is much we can learn from each other’s different experiences and perspectives. Group work will include a combination of the following:
 - (a) *Group projects:* There will be *two* group projects. Each project is like a “big” exercise that aims to help you learn to apply economic concepts from the course to real-world situations. They are more challenging than the usual problem sets, and so need effort from all group members.
 - (b) *Group presentation:* Every group will be asked to make a presentation to the class on a topic selected from a list of relevant themes. The goal is to apply economic principles to real-world situations and to hone your communication skills. The content is more qualitative than the problem sets and group projects.

- *Exams.* There will be *two* in-class exams: one on October 13, and another on November 29. Generally, each exam will feature three or four questions similar to those in the problem sets and additional practice problems.

You are responsible for checking exam dates and other deadlines and avoiding conflicts with other commitments. Exams will not be re-administered on other dates. If you discover what you believe to be an error in the grading of an exam question, you must notify me via email no more than one week after the exams are returned. If you would like any exam question re-graded, you must provide a written request that clearly states your reasoning. In response to your request, I may choose to re-grade the exam in its entirety.

GRADES

Your grade for the course will be based on your performance on these deliverables, weighted as follows:

Problem sets	10%
Group projects	20% (10% for each)
Group presentation	10%
First exam	30% (or 20%)
Second exam	30% (or 40%)

Your performance in terms of class participation will serve as a *tiebreaker* if you are on the boundary between two grades.

The first exam counts for 30% if it increases your grade but for only 20% if it does not. This means that if you do better on the first exam than on the second, then the first will count for 30%. But if you do better on the second exam than on the first, then the first exam will count for only 20%. The reason for doing this is that the course will move quickly, and I am sensitive to the fact that some students may need some time to familiarize themselves with what economics is about. Ultimately, I care about what you learn by the end of the course—the grading scheme is intended to be consistent with that concern.

Final grades will strictly follow the NYU Stern’s guideline for core courses: no more than 35% of students will receive grades of A or A–. This guideline was instituted in response to student concerns that different sections of a course might be graded by different standards.

ACADEMIC INTEGRITY

At NYU Stern, we take pride in our well-rounded education and approach our academics with honesty and integrity. These qualities form the basis for the strong trust among members of the academic community that is essential for excellence in education. As members of this community, all students agree to abide by NYU’s Academic Integrity Policies (available online at <https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html>) in addition to the NYU Stern Student Code of Conduct (<https://www.stern.nyu.edu/portal-partners/student-engagement/student-life/life-stern/code-conduct>). These include a commitment that each student act with integrity in all academic activities and endeavor to hold his or her peers to the same standard.

In this course, you may discuss assignments with anyone, but any written work submitted for a grade should be your own. On exams, you may bring in and consult one piece of paper with anything on it you like, but your answers should be entirely your own work.

GENERAL CONDUCT AND BEHAVIOR

Students are expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with the NYU Student Conduct Policy (available online at <https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>) and the NYU Stern Code of Conduct (see <https://www.stern.nyu.edu/portal-partners/registrar/policies-procedures/general-policies/code-conduct>). Except where explicitly stated otherwise, Stern's default course policies (available online at <https://www.stern.nyu.edu/portal-partners/academic-affairs-advising/policies-procedures/default-policies-stern-courses>) are in force.

ELECTRONIC DEVICES

The use tablets and laptops, for the purpose of note-taking only, is permitted. However, students should make every effort to avoid distracting their classmates or disrupting the class, including arriving early and choosing a seat that is less distracting for peers. Students are not permitted to use any other electronic devices during class without explicit permission from the instructor.

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 (mosescsa@nyu.edu, 212-998-4980) 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 Moses Center for Student Accessibility website at <https://www.nyu.edu/csa/>.

STUDENT WELLNESS

Our aim is for students to be as successful academically as they can, and to help them overcome any impediments to that. Visit the NYU Stern Well-being Resource Hub (at <https://www.stern.nyu.edu/wellbeing>) for existing services at NYU and Stern, covering a wide variety of topics including financial well-being, relationship well-being, mental well-being, and more. Any student who may be struggling and believes this may affect their performance in this course is urged to contact the Moses Center for Student Accessibility (see also the Accessibility section above) at 212-998-4980 to discuss academic accommodations. If mental health assistance is needed, call the NYU's 24/7 Wellness Exchange hotline at 212-443-9999. Furthermore, please approach me if you feel comfortable doing so. This will enable me to provide relevant resources or referrals. There are also drop-in hours and appointments. Find out more at <http://www.nyu.edu/students/health-and-wellness/counseling-services.html>.

RELIGIOUS OBSERVANCES AND OTHER ABSENCES

NYU's Calendar Policy on Religious Holidays (available at <https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-calendar-policy-on-religious-holidays.html>) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. You must notify me in advance of religious holidays or observances that might coincide with exams, assignments, or class times to schedule mutually acceptable alternatives. Students may also contact religiousaccommodations@nyu.edu for assistance.

NYU Stern is committed to ensuring an equitable educational experience for all students regardless of identity or circumstances and strives to recognize the obligations its students have outside of Stern. Please review all class dates at the start of the semester and review all course requirements to identify any foreseeable conflicts with exams, course assignments, projects, or other items required for participation and attendance. If you are aware of a potential conflict, please contact me as soon as possible to discuss any potential conflicts to determine whether and how they can be accommodated.

GETTING HELP

I would like each of you to learn and gain as much as you can from this course. If you are stuck, or are having difficulty with the material, don't hesitate to ask for assistance. Please send me an email (maher.said@nyu.edu), and I will do my best to respond promptly. I hold regular office hours in KMC 7-91 from 2:30–3:30 every Monday and Wednesday; if this does not work for you, feel free to contact me to try arranging an alternate time.

You can also get help from one of our (incredibly talented) teaching fellows:

- TBD (tbd@stern.nyu.edu)
- TBD (tbd@stern.nyu.edu)
- TBD (tbd@stern.nyu.edu)

PRELIMINARY LIST OF TOPICS TO BE COVERED

- *Demand, supply and market equilibrium*: demand and supply; market forces; market equilibrium; shifts in demand and supply.
- *Demand*: utility function; indifference curve; budget constraint; demand function; consumer surplus; demand elasticity; demand estimation; risk aversion.
- *Economic cost analysis*: opportunity costs; sunk costs; marginal costs; economic costs and cash flows.
- *Perfect competition and market equilibrium*: short-run equilibrium; long-run equilibrium; comparative statics; welfare analysis: consumer surplus, producer surplus, and economic efficiency.
- *Basic monopoly pricing*: profit maximization; marginal revenue; marginal cost; elasticity rule.
- *Advanced pricing*: price discrimination; market segmentation; two-part tariff; quantity discount; versioning and bundling; dynamic pricing.
- *Game theory*: strategies and payoffs; simultaneous-move games and normal-form games; sequential-move games and extensive-form games; dominant and dominated strategies; best responses; Nash equilibrium; backward induction; the prisoner's dilemma, the coordination game, and other important games.
- *Price competition*: Bertrand competition; avoiding the "Bertrand trap": cost leader, cooperative pricing, limiting capacity, product differentiation, price matching.
- *Competition and cooperation*: cooperation in business; cooperative pricing; repeated games; trigger strategies; cartels; tacit collusion; factors that make cooperation easier.
- *Commitment*: credibility; the value of a credible commitment; first-mover advantages; preemption; product proliferation; entry and exit.
- *Asymmetric information*: hidden actions; moral hazard and the agency problem; incentive design; hidden types; adverse selection and the lemons problem; screening and signaling; auctions.
- *Externalities and network effects*: positive and negative externalities; Coase theorem; network effects; expectations and critical mass; strategic compatibility decisions; two-sided markets.



TENTATIVE CALENDAR

Date	Tentative plan for class	Deliverables
Sept. 1	Introduction. Supply and demand.	
Sept. 6	Supply and demand.	
Sept. 8	Consumer demand.	
Sept. 13	Consumer demand.	
Sept. 15	Costs and supply.	Problem Set 1 due.
Sept. 20	Costs and supply.	
Sept. 22	Competitive markets.	
Sept. 27	Monopoly pricing.	
Sept. 29	Advanced pricing.	Group Project I due.
Oct. 4	Advanced pricing.	
Oct. 6	Exam review.	Problem Set 2 due.
Oct. 11	No class.	
Oct. 13	First exam (in class).	
Oct. 18	Game theory.	
Oct. 20	Game theory.	
Oct. 25	Price competition.	
Oct. 27	Cooperation.	Problem Set 3 due.
Nov. 1	Commitment.	
Nov. 3	Asymmetric information.	
Nov. 8	No class.	
Nov. 10	Asymmetric information.	Group Project II due.
Nov. 15	Auctions.	
Nov. 17	Other topics.	Problem Set 4 due.
Nov. 22	Exam review.	
Nov. 24	No class.	
Nov. 29	Second exam (in class).	
Dec. 1	Group presentations.	
Dec. 6	Group presentations.	
Dec. 8	Group presentations.	