

## 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 or 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. 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; *calculate the NPV* of a stream of payments; *compute the derivative* of a simple equation; and *find the maximum* or minimum of a function using derivatives.

### Course materials

- *Lecture notes.* They 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.* There is **no required textbook** for this course. If you insist on having a reference text, I recommend Michael Baye's *Managerial Economics and Business Strategy* (McGraw-Hill, either 8th or 9th edition), which is available in the bookstore or online. There is also a study guide to accompany the text. Some students indicate that they find this book helpful.
- *Slides.* I will post the slides on 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 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 and grades

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 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 will not be graded, but will be marked with a check (and possibly a plus or minus). You are expected to hand these in and to make a reasonable attempt; 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.

- *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.
- *Exams.* There will be *two* exams: one on October 13, and another on November 22. Generally, each exam will feature three or four questions similar to those in the problem sets and additional practice problems.

Your grade for the course will be based on your contributions to all of these deliverables, weighted as follows:

Class participation	15%
Group presentation	15%
First exam	35%
Second exam	35%

Final grades will strictly follow the School's guideline for core courses: no more than 35% of the class 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.

### Course policies

- *Exams and re-grading.* You are responsible for checking the exam dates and avoid any conflict with other commitments. Exams will not be re-administered on other dates. During an in-class exam, you are not allowed to consult class notes, books, or any other material. You may, however, consult one (standard letter-sized) sheet of notes. Questions about grading must be made in writing and no more than a week after the exams are returned.
- *Honor code.* The Stern community believes that honesty and integrity are necessary for rewarding academic and professional experiences. These qualities form the basis for the strong trust among members of the academic community (students, faculty, and administrators) that is essential for excellence in education. The Stern Code of Conduct (available online at <https://nyustern.campusgroups.com/ose/code-of-conduct/>) requires 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 notes on both sides, but your answers should be entirely your own work.

- *Other policies.* Unless explicitly stated otherwise, students should assume that Stern's default policies (available online at <http://www.stern.nyu.edu/portal-partners/registrar/policies-procedures/general-policies-1>) are in force. In particular, note that the use of laptops, tablets, phones, and other devices is prohibited.

### Electronic Devices in the Classroom

Please switch off cell phones before entering the classroom. No laptops are permitted. You can use an iPad to take notes, but please make sure it lies flat—not upright—on the desk.

### 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>

## **Student Wellness**

Our aim is for students to be as successful academically as they can, and to help them overcome any impediments to that. Bookmark the NYU Stern Well-being Resource Hub (<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 Student Accessibility section of this syllabus) at 212 998 4980 to discuss academic accommodations. If mental health assistance is needed, call the NYU's 24/7 Wellness Exchange hotline 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>

## **Name pronunciation and pronouns**

NYU Stern students now have the ability to include their pronouns and name pronunciation in Albert. I encourage you to share your name pronunciation and preferred pronouns this way. Please utilize this link for additional information: [Pronouns & Name Pronunciation](#)

## **Religious Observances and Other Unique Situations**

NYU Stern is committed to ensuring an equitable educational experience for all students regardless of identity or religious/cultural background. The observance of religious and cultural holidays/traditions and the recognition of unique circumstances—such as serving as a caregiver—are important aspects of this commitment. 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. Please contact me within the first two weeks of the class semester to discuss any potential conflicts.

## **Diversity, Inclusion, and Equity**

I am deeply committed to maintaining a classroom culture that respects and embraces diversity, inclusion, and equity. For more information about NYU Stern's continued efforts in this area, please visit: <https://www.stern.nyu.edu/portal-partners/diversity-inclusion>.

## **Teaching Fellow**

The Teaching Fellow for the course is Matthew Bodner, who is a second-year full-time MBA student at Stern. The best way to reach him with a question or a request to meet or to talk is by e-mail: [matthew.bodner@stern.nyu.edu](mailto:matthew.bodner@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:** demand function; consumer surplus; demand elasticity.

**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; network effects; expectations and critical mass; strategic compatibility decisions; two-sided markets.