

Managerial Microeconomics

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“Confusion is the sweat of Learning.”—Rhett Alain

Course Objectives

The goal of this course is to equip you to think *strategically* about business decisions. We focus on using ideas from the study of economics (such as the principal-agent problem) to think strategically and thus make better managerial decisions. Readings will detail each concept; a case elucidating the application of that concept in a business setting will then be considered. Topics will include game theory, moral hazard, adverse selection, optimal pricing, and market entry.

Leadership and This Course

The Texas MBA program is designed to develop influential business leaders. The program has identified four fundamental and broad pillars of leadership: knowledge and understanding, communication and collaboration, responsibility and integrity, and a worldview of business and society.

In this course, you will gain an understanding of how firms participate in markets in the presence of real-world frictions such as hidden information, transaction costs, and barriers to entry. You will be expected to not only formulate successful strategies, but also to communicate those strategies and why they are effective to others. Finally, the principles in this course are universal, and many of the cases consider the perspective of firms operating in environments such as Europe, India, and Japan.

Course Materials

The textbook for the course is *Microeconomics for Managers* (2nd edition) by David M. Kreps. There will also be a Harvard Business School Publishing course reader, which will contain the cases used throughout the course as well as several supplementary readings; I will send out a link to purchase the course reader the week before class.

Class Preparation

MBA students at McCombs come from a wide variety of backgrounds and thus have different levels of preparation for the course. Nevertheless, all students admitted to McCombs have the potential for success; however, your background will determine if and how much “groundwork” you will need to do to be successful.

There are three broad categories of background knowledge that will be vital for the course:

- **Economics:** This course studies decision-making by managers in an economic environment. Thus, it will be very helpful if you understand economics at the level of a good undergraduate microeconomics course: you should be able to explain what it means for “supply to meet demand,” how taxes and price controls distort markets, and why a monopolist increases its price above the competitive level. A standard textbook treatment is given by Mankiw’s *Principles of Microeconomics* or Varian’s *Intermediate Microeconomics*; a very gentle introduction to these ideas is provided by Wheelan’s *Naked Economics*.
- **Mathematics:** This course focuses on optimal decision-making by managers. And since calculus is the mathematical language for optimization, your learning will be facilitated by an understanding of differential calculus (i.e., the calculus of derivatives) at the introductory college (or high school AP) level: you should be able to take the derivative of a simple polynomial function and explain why the slope of a function is zero at its maximum. A very good (and manager-oriented) introduction to the necessary ideas from calculus for this course is provided by the textbook author at <https://micro4managers.stanford.edu/> under “Calculus Cookbook.” You may also find Wolfram Alpha (<https://www.wolframalpha.com/>) helpful to check your work.
- **Business Cases:** This course will focus on using insights from economics to make better decisions as managers. In this course (and many of your future courses), cases help us understand how these insights can be applied to a specific managerial challenge with all its inherent uncertainty and ambiguity. For those of you from a less business-oriented background, a good reference for how to read cases is *The Case Study Handbook: A Student’s Guide* by William Ellet. You may also wish to purchase the Case Companion as an add-on to the course reader as a quick tutorial in how to prepare for case discussion.

Grading

Your grade in the course is based on class participation (30%), problem sets and a case exercise (15%), and a final exam (55%).

Class Participation

The key to effective classroom participation is *engagement*. I expect you to engage the material, your classmates, and the faculty with *vigor*. The quality of an individual's participation is more important than the quantity. Characteristics of valuable classroom comments include the following:

- Comments that are clearly **related to the case** and to the comments of others,
- Comments that **clarify and highlight the important aspects** of earlier comments,
- Comments that **synthesize** the main components of the discussion,
- Comments that **support the collective learning process** of the class,
- Comments that **go beyond the commonplace** and bring fresh analytic perspectives.

Class sessions should be viewed as business school analogs of professional business meetings. As such, you are expected to attend and be well-prepared for every class session; in particular, you should have read and be prepared to discuss *in detail* the reading material assigned for each class. I will send out discussion questions before each class about the case; you should be able to provide short answers to each question (or at least explain the source of your difficulty in answering the question). For many classes, I will ask you to submit an answer to a discussion question via survey; survey participation is part of your class participation grade and allows me to see which students answered the discussion question differently and so foster constructive debate.

If you must miss a class due to an emergency, please send me a note of explanation as a courtesy prior to class. Absences are otherwise regarded as unexcused and will be reflected negatively in your class participation grade.

Problem Sets and Case Exercise

A small number of problem sets will be handed out throughout the course. You are *encouraged* to work together; however, you are expected to write up your own solutions. Please also note on your problem set with whom you worked. While you are welcome to use tools on the Internet to help with the mathematical analysis (such as Wolfram Alpha), please do not use LLMs such as ChatGPT to formulate your method to solve the problem.

The case exercise will consist of the analysis of a new case using the principles and frameworks introduced in the class. As in class, when considering a case, it will be vital that you identify *all* of the strategic aspects of the question being asked. Moreover, your analysis should consider both the pros and cons of any recommended course of action. As with the problem sets, you are encouraged to

discuss the case exercise with your classmates; however, you should write up the answers to the questions in your own words.

Final Exam

The final exam will require you to analyze new cases. There will be a mixture of qualitative and quantitative analysis required.

McCombs Classroom Professionalism Policy

The highest professional standards are expected of all members of the McCombs community. The collective class reputation and the value of the Texas MBA experience hinges on this. You should treat the Texas MBA classroom as you would a corporate boardroom.

Faculty are expected to be professional and prepared to deliver value for each and every class session. Students are expected to be professional in all respects.

The Texas MBA classroom experience is enhanced when:

- **Students arrive on time.** On time arrival ensures that classes are able to start and finish at the scheduled time. On time arrival shows respect for both fellow students and faculty and it enhances learning by reducing avoidable distractions.
- **Students display their name cards.** This permits fellow students and faculty to learn names, enhancing opportunities for community building and evaluation of in-class contributions. Please contact me if you need a name card.
- **Students minimize unscheduled personal breaks.** The learning environment improves when disruptions are limited.
- **Students are fully prepared for each class.** Much of the learning in the Texas MBA program takes place during classroom discussions. When students are not prepared they cannot contribute to the overall learning process. This affects not only the individual but their peers, who count on them, as well.
- **Students respect the views and opinions of their colleagues.** Disagreement and debate are encouraged. Intolerance for the views of others is unacceptable.
- **Laptops and electronic tablets are used appropriately.** Laptops should only be used in class for activities directly related to in-class learning (e.g., taking notes). When students are surfing the web, responding to e-mail, instant messaging each other, and otherwise not devoting their full attention to the topic at hand they are doing themselves and their peers a major disservice.
- **Phones and wireless devices are turned off/silent.** We have all heard the annoying ringing in the middle of a meeting. Not only is it not professional, it cuts off the flow of discussion when the search for the offender begins. When a true need to communicate with

someone outside of class exists (e.g., for some medical need) please inform the professor prior to class.

Remember, you are competing for the best faculty McCombs has to offer. Your professionalism and activity in class contributes to your success in attracting the best faculty to this program.

Academic Dishonesty

Academic dishonesty is not tolerated. Such acts damage the reputation of the school and the degree and demean the honest efforts of the vast majority of students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment or exam.

The responsibilities for both students and faculty with regard to the Honor System are described on the school website. As the instructor for this course, I agree to observe all the faculty responsibilities described therein. As a Texas student, you agree to observe all of the student responsibilities of the Honor Code. If the application of the Honor System to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification; please do so if anything is unclear.

As specific guidance for this course, you should consider the *writing* of all examinations (i.e., the final) to be an individual effort. Group *preparation* for examinations is acceptable and encouraged. Homework assignments are to be turned in individually, but you are allowed—and in fact encouraged!—to work together in answering the questions. You should, however, develop your own answer and not copy and paste the work of others.

Students with Disabilities

Upon request, the University of Texas at Austin provides appropriate academic accommodations for qualified students with disabilities. Services for Students with Disabilities (SSD) is housed in the Office of the Dean of Students, located on the fourth floor of the Student Services Building. Information on how to register, downloadable forms, including guidelines for documentation, accommodation request letters, and releases of information are available online at <http://deanofstudents.utexas.edu/ssd/index.php>. Please do not hesitate to contact SSD at (512) 471-6259, VP: (512) 232-2937 or via email if you have any questions.

Notable Dates

Date	Session Number	Event
8/28/2024	3	Problem Set #1 distributed
9/4/2024	6	Problem Set #2 distributed
9/8/2024	N/A	Problem Set #1 due
9/11/2024	8	Case Exercise distributed
9/22/2024	N/A	Problem Set #2 due
9/23/2024	11	Problem Set #3 distributed
9/25/2024	12	Practice Exam distributed
9/29/2024	N/A	Case Exercise due Practice Exam (non-required) due
10/6/2024	N/A	Problem Set #3 due
10/9/2024	N/A	Exam distributed
10/13/2024	N/A	Exam due at 5 p.m.

Schedule

Introduction

SESSION 1: INTRODUCTION

This session introduces the goals of the class and discusses how to use the ideas of economics to make more profitable managerial decisions. We will introduce many of the issues discussed in-depth later in the semester by considering the challenges Netflix faces with respect to entering a new market, creating a new platform for the distribution of media, how to use its first-mover advantage, and using its network to its advantage.

Reading: *Microeconomics for Managers*, pp. 1-7, 293-304 (Chapters 1 and 13);
Magretta, “The Five Forces: Competing for Profits”

Case: Netflix

Further Reading: *Microeconomics for Managers*, pp. 306-350 (Chapters 14 and 15);
Wheelan, *Naked Economics*, Chapters 1 and 2.
Jensen, “The Digital Provide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector,” *Quarterly Journal of Economics* (2007)

Optimization: Profit Maximization and Making Better Decisions

SESSION 2: OPTIMAL PRICING

This session considers the classic problem of optimal pricing by a firm with market power. Pricing correctly is key to profitability: we consider optimal pricing in a variety of different settings. We also introduce the general idea of optimization, used throughout the course. We then apply these ideas to formulate pricing strategy for a firm making a higher quality but more expensive product.

Reading: *Microeconomics for Managers*, pp. 123-151 (Chapter 6)

Case: Husky Injection Molding Systems

Further Reading: *Microeconomics for Managers*, pp. 155-171 (Chapter 7)
Levy, Grewal, Kopalle, and Hess, “Emerging Trends in Retail Pricing Practice,” *Journal of Retailing* (2004)

SESSION 3: PRICE DISCRIMINATION

Price discrimination is a common strategy used by firms to enhance profits. In this session, we consider several methods of price discrimination as well as how and when they may be used profitably. The case considers a classic example of when price discrimination may be helpful: when selling software to a variety of users with different needs and different willingness-to-pay.

Reading: *Microeconomics for Managers*, pp. 175-190 (Chapter 8)

Case: Cambridge Software Corp.

Further Reading: Deneckere & McAfee, “Damaged Goods,” *Journal of Economics and Management Strategy*

SESSION 4: UNCERTAINTY AND DECISION TREES

Uncertainty is a fundamental challenge to decisionmaking. This session introduces uncertainty and a framework for how agents act in its presence. It also introduces *decision trees*, which are useful in making decisions when uncertainty will be resolved and decisions must be made at different points in time. We then construct and solve a decision tree to evaluate a new pharmaceutical licensing opportunity in the case.

Reading: Greenwood and White, “Decision Trees”

Case: Merck & Co.: Evaluating a Drug Licensing Opportunity

Game Theory

SESSION 5: SEQUENTIAL GAMES

This session introduces students to the ideas of game theory and their application to managerial decisionmaking. Firms often make decisions sequentially, with one firm having the chance to move before another, such as when deciding to enter new markets or introduce new products. The case exemplifies decisionmaking in such an environment and shows the power of backward induction in managerial decisionmaking.

Reading: *Microeconomics for Managers*, pp. 8-30 (Chapter 2-2.3)

Case: Philips’ Compact Disc Introduction (B)

Further Reading: Dixit and Nalebuff, *The Art of Strategy*, pp. 33-47

SESSION 6: SIMULTANEOUS GAMES

This session builds upon the previous by considering simultaneous games—games in which firms must make decisions at the same time as others (i.e., each firm is ignorant of the decision of the other when making its own decision). We introduce the solution concepts of iterated dominance and Nash equilibrium and consider how to use them to explain business outcomes such as oligopoly pricing decisions.

Reading: *Microeconomics for Managers*, pp. 30-45 (Chapter 2.4-2.7)

Case: Airbus and Boeing: Superjumbo Decisions

Further Reading: Dixit and Nalebuff, *The Art of Strategy*, pp. 102-108

SESSION 7: MARKET ENTRY

This session considers the classic business problem of entry into a new market. We consider which strategies allow for successful market entry (such as product differentiation) and when they are likely to be successful. The case considers one of the most difficult markets to enter: passenger air travel.

Reading: Bryce and Dyer, “Strategies to Crack Well-Guarded Markets”

Case: Dogfight over Europe: Ryanair (A)

Further Reading: *Microeconomics for Managers*, pp. 155-171 (Chapter 7)

SESSION 8: THE HOLD-UP PROBLEM

The hold-up problem is a classic problem in negotiation and can lead to highly inefficient behavior by firms. We outline the essential components of the hold-up problem and consider possible solutions. The case then considers these solutions in the context of suppliers who provide a necessary input.

Reading: *Microeconomics for Managers*, pp. 96-115 (Chapter 5-5.2);

McGahan, “Sustaining Superior Profits: Customer and Supplier Relationships”

Case: Bergerac Systems: The Challenge of Backward Integration

Further Reading: *Microeconomics for Managers*, pp. 115-120 (Chapter 5.3)

SESSION 9: REPEATED GAMES

This session builds upon the prior two by introducing the idea of repeated games. Many interactions are repeated—you expect to interact with fellow students many years into the future, and firms expect to interact with suppliers, customers, and competitors many years into the future as well. Such repeated interaction can enable firms to formulate and use profitable strategies unavailable in “one-shot” games. We use the insights presented here to understand the collusive behavior of GE and Westinghouse.

Reading: *Microeconomics for Managers*, pp. 48-69 (Chapter 3)

Case: General Electric vs. Westinghouse in Large Turbine Generators

Further Reading: *Microeconomics for Managers*, pp. 82-93 (Chapter 4.2)

Information Economics

SESSION 10: RISK AND RISK AVERSION

Many economic agents are *risk-averse*, that is, they dislike uncertainty in their consumption. In this session, we focus on how a risk-averse agent should make decisions in the presence of uncertainty. Whether or not the firm you represent is risk-averse, you are likely to interact with risk-averse agents, and thus understanding risk aversion can help you formulate better contracts, an idea that will be explored in future sessions. The case considers a small family firm that has the opportunity to reduce its risk by either “selling” the risk or procuring information about the risk.

Reading: *Microeconomics for Managers*, pp. 399-418, 428-435 (Chapters 18-18.4, 19-19.3)

Case: Ratnagiri Alphonso Orchard

Further Reading: *Microeconomics for Managers*, pp. 419-424, 435-441 (Chapters 18.5, 19.4-.5)

SESSION 11: MORAL HAZARD

This session focuses on strategic interactions between a principal and an agent when the agent’s actions are hidden from the principal, a situation known as *moral hazard*. Such interactions are pervasive in firms: shareholders and corporate officers, managers and employees, general contractors and subcontractors. The case considers a common solution to the problem—piecerate pay—and the necessary supporting behaviors by management.

Reading: *Microeconomics for Managers*, pp. 468-484 (Chapter 21)

Case: Lincoln Electric Co.

Further Reading: Siegel and Larson, “Labor Market Institutions and Global Strategic Adaptation: Evidence from Lincoln Electric,” *Management Science* (2021).

SESSION 12: ASYMMETRIC INFORMATION

This session again considers the principal-agent problem but focuses on environments where the agent has knowledge that the principal does not. For instance, corporate officers may know more than shareholders about the true profitability of a firm, or sellers may know more about the true quality of an item than the buyer. Many principal-agent problems have both asymmetric information and moral hazard. We will consider how Safelite formulated a successful response to this joint problem.

Reading: *Microeconomics for Managers*, pp. 437-441, 446-456 (Chapters 19.5 and 20-20.3)

Case: Performance Pay at Safelite Auto Glass (A)

Further Reading: Lazear, “Performance Pay and Productivity,” *American Economic Review* (2000).

SESSION 13: SIGNALING AND SCREENING

This session considers the use of signaling in the principal-agent context. In many environments, agents will undertake costly signaling efforts in order to demonstrate an important attribute. For instance, a firm may wish to convince clients it is qualified to perform a particular contract. Similarly, principals may screen applicants in order to reveal hidden information. The case considers a setting in which a platform creator must screen platform members.

Reading: *Microeconomics for Managers*, pp. 456-461 (Chapter 20.4-.5)

Case: Cadre

Further Reading: Dixit and Nalebuff, *The Art of Strategy*, pp. 235-243.

Wheelan, *Naked Economics*, Chapter 5.

Conclusion

SESSION 14: CONCLUSION

We conclude the class by applying what we have learned to the problem of entry into a two-sided market. In particular, we consider the strategy of Nintendo when it first entered the video game console market.

Reading: Eisenmann et al., “Strategies for Two-Sided Markets”

Case: Power Play (A): Nintendo in 8-bit Video Games