

BUS-G300 – INTRODUCTION TO MANAGERIAL ECONOMICS AND STRATEGY

FALL 2021

Class Times: Tuesday & Thursday, 7:00 pm – 8:15 pm.
This course covers the 16-week regular academic session and meets in person.
The first class is on Aug 24, 2021. The last class is on Dec 16, 2021.

Location: Room 3055, Hodge Hall

Class Website: Canvas

Instructor: Yanhao Wang yw113@iu.edu

Office: Room 3080V (inside the 3080 suite), Hodge Hall

Office Hours: Thursday 3:30 pm – 5:30 pm, or by appointment.

COURSE DESCRIPTION

Managerial economics is the study of how to direct scarce resources in the way that most efficiently achieves a managerial goal. Managers are constantly faced with business decisions: Should a firm purchase component from other manufacturers or produce them within the firm? Should a firm specialize in making one type of product or produce several different types? How many units of product should a firm produce, and at what price should it sell them?

Through this course, students will learn how to apply principles of economic decision-making in their own fields of interest as well as in their personal financial life. For a student interested in any management position, this course will provide a fundamental basis for further study. This is also a course that will empower students with the skills needed to understand and interpret business news, issues, and trends.

To accomplish these goals, we will take a “top-down” approach. Specifically, we will begin by analyzing fundamental economics of the marketplace in general. We will then look at industry-level topics, such as market structure and firm competition. Finally, we will analyze specific manager-level problems including pricing, principal-agent conflict, and firm organization by using game theory techniques.

This course is organized into 7 modules:

- **Module 1: Fundamentals of Managerial Economics**
 - What is managerial economics?
 - Applying present value analysis to decision-making
 - Using marginal analysis to make discrete and continuous decisions
- **Module 2: Supply and Demand**
 - Law of Supply and Demand
 - Working with the supply and demand functions; understanding factors that shift supply and demand and their impact on market equilibrium
 - Calculating market equilibrium and understanding how it is affected by price restrictions
- **Module 3: Quantitative Demand Analysis**
 - Interpreting and calculating various elasticity measures
 - Formulating demand functions based on regression analysis

- **Module 4: Producer Theory**
 - Calculating marginal and average products; marginal and average costs
 - Using decision rules to identify optimal amounts of capital and labor inputs to use in production
 - Identifying optimal method to acquire various inputs
 - Understanding the principal-agent problem
- **Module 5: Market Structures**
 - Calculating measures of industry concentration
 - Using decision rules to identify optimal price and quantity in various market structures
- **Module 6: Game Theory**
 - Solving one-shot, multistage, and repeated games
- **Module 7: Pricing Strategies**
 - 1st, 2nd, and 3rd degree price discrimination
 - Identifying pros and cons of various pricing strategies for firms with market power

(These learning outcomes support Goals 1, 3, and 5 of the undergraduate program learning goals. See Appendix.)

PREREQUISITES

This course is essentially self-contained. However, a background in algebra (including solving equations, graphing functions, slopes, etc) and basic calculus (including derivatives) will be helpful. There will be a math primer for the purpose of reference.

WHAT YOU WILL NEED FOR THIS COURSE

- **Textbook**
Managerial Economics and Business Strategy (10th Edition, McGraw-Hill)
 by Michael R. Baye & Jeffrey T. Prince
 (Reading after class is critical part of this course, therefore the textbook is required. Please go to IU Bookstore for available options.)
- **Calculator** that can calculate exponents
 (You may *not* use your phone on quizzes and exams, so I recommend having or borrowing an actual calculator.)

GRADING

- **2 mid-semester quizzes (15%×2=30%):** One for module 1-3 (Oct 5, tentatively) and the other for module 4 & 5 (Nov 4, tentatively). Quizzes will be held in class on 7:00-8:15pm.
- **Final exam (25%):** Cumulative (tests all material covered in the course) and is scheduled for **Dec 16th 7:50pm-9:50pm** in class.
- **Problem sets (5%×7=35%):** There will be one problem set for each module. Each problem set consists of 20 multiple-choice questions. They will typically be visible to you on Canvas after the second class of each module. You should submit your answers on Canvas before the deadline (see

the course outline for more). I encourage you to discuss with each other or study in small groups. However, each person must submit their own solutions.

- ***In-class participation activities (0.5%×16+2%=10%):*** I will give a quiz once a week (either on Tuesday or Thursday, randomly). A typical quiz will consist of three or four questions. You won't be able to see the questions until near the end of class. You will have to hand in the answer sheet before you leave the classroom. You get 0.5 points as long as you submit the answer sheet. There will be 16 times of this quiz throughout the semester. If you finish all the 16 quizzes, you get an extra 2 points (no need to be correct in each quiz). These quizzes are designed to involve everyone's participation and reinforce key concepts.

RULES AND POLICIES

1. Do not use electronic devices other than your computers and calculators during class. This means you should put your phones down and dig into the world of economics with me for 75 minutes.
2. Attend every class on scheduled time. Please email me in advance if you are going to miss the upcoming class, be late or leaving early for unavoidable cause.
3. Problem sets are administered online via Canvas and solutions will automatically be displayed after the due date/time. Therefore, I do *not* accept late submissions. Please be sure to submit your answers well ahead of time in case there is any internet issue. Problem sets are due at **11:59pm on the dates indicated in the course outline.**
4. Quizzes and exams must be taken the day they are administered. If you have a valid reason for missing a quiz, please inform me **at least 10 days before** the quiz date, and I can arrange you to take a different version of the quiz at an alternate time. If you miss a quiz/exam and I did not receive any *prior* notice, you may be permitted to take a different version at an alternate time, but your score will be penalized by 50%.
5. Communication. Outside the classroom and office hours, **email** and **Canvas** are the primary forms of communication. It is important that you *regularly* check your email and the course website for announcements, assignment updates, etc.

HOW TO BE SUCCESSFUL IN THIS CLASS

What an effective study cycle should look like:

- Attend the class and pay 100% of your attention.
- Read assigned chapters on the textbook after class.
- Review the slides every time before you do the problem set.
- Mark down things that do not make sense to you. Study with your peers, ask questions on review session, or come to the office hours.

Any material covered in the slides, problem sets, end-of-class quizzes, or textbook readings is fair game for the quizzes and exam. I am more than happy to hear your feedback or advice about the course design!

Tentative Outline

Module	Date	Coverage	Reading
1 (Fundamentals)	Tue, Aug 24	Introduction, Opportunity Cost, Economic Profit	Chapter 1: Introduction, Economics of Efficient Management (Stop at "Recognize the Time Value of Money")
	Thu, Aug 26	Net Present Value	Chapter 1: Economics of Efficient Management ("Recognize the Time Value of Money")
	Tue, Aug 31	Marginal Analysis	Chapter 1: Economics of Efficient Management ("Use Marginal Analysis")
	Thu, Sep 2	Lecture or Review Session	
	Module 1 Problem Set due on Sep 5 (Sun), 11:59pm		
2 (Supply and Demand)	Tue, Sep 7	Introduction, Demand	Chapter 2: Introduction, Demand
	Thu, Sep 9	Supply, Equilibrium	Chapter 2: Supply, Market Equilibrium
	Tue, Sep 14	Price Restrictions, Comparative Statics	Chapter 2: Price Restrictions, Comparative Statics
	Thu, Sep 16	Lecture or Review Session	
	Module 2 Problem Set due on Sep 19 (Sun), 11:59pm		
3 (Quantitative Demand Analysis)	Tue, Sep 21	Introduction, Own- and Cross-Price Elasticity of Demand	Chapter 3: Introduction, Own- and Cross-Price Elasticity of Demand
	Thu, Sep 23	Income Elasticity of Demand, Other Elasticities, Obtaining Elasticities	Chapter 3: Income Elasticity of Demand, Other Elasticities, Obtaining Elasticities
	Tue, Sep 28	Regression Analysis	Chapter 3: Regression Analysis
	Thu, Sep 30	Lecture or Review Session	
	Module 3 Problem Set due on Oct 3 (Sun), 11:59pm		
Quiz 1	Tue, Oct 5	Covers Module 1-3 (7:00pm-8:15pm)	
4 (Production Theory)	Thu, Oct 7	Introduction, Acquiring Inputs, Production Function	Chapter 6: Introduction, Methods of Procuring Inputs; Chapter 5: Production Function
	Tue, Oct 12	Short-run and Long-run Decision, Isoquant and Isocost	Chapter 5: Production Function
	Thu, Oct 14	Cost Function, Economies of Scale, Economies of Scope	Chapter 5: Cost Function, Multiple-Output Cost Functions
	Tue, Oct 19	Lecture or Review Session	
	Module 4 Problem Set due on Oct 22 (Fri), 11:59pm		
5 (Market Structures)	Thu, Oct 21	Introduction, Perfect Competition	Chapter 8: Introduction, Perfect Competition
	Tue, Oct 26	Monopoly, Monopolistic Competition	Chapter 8: Monopoly, Monopolistic Competition
	Thu, Oct 28	Oligopoly, Industry Concentration and Antitrust	Chapter 7: Market Structure
	Tue, Nov 2	Lecture or Review Session	
	Module 5 Problem Set due on Nov 5 (Fri), 11:59pm		
Quiz 2	Thu, Nov 4	Covers Module 4-5 (7:00pm-8:15pm)	
6 (Game Theory)	Tue, Nov 9	Introduction, Simultaneous Games	Chapter 10: Introduction, Overview of Games, Simultaneous-Move One-Shot Games
	Thu, Nov 11	Repeated Games and Subgame Perfect Nash Equilibrium	Chapter 10: Multistage Games

	Tue, Nov 16	Finitely Repeated Games, Infinitely Repeated Games	Chapter 10: Infinitely Repeated Games, Finitely Repeated Games
	Thu, Nov 18	Lecture or Review Session	
	Module 6 Problem Set due on Nov 28 (Sun), 11:59pm		
7 (Pricing Strategies)	Tue, Nov 30	Introduction, Basic Pricing Strategies, First-Degree Price Discrimination	Chapter 11: Introduction, Basic Pricing Strategies
	Thu, Dec 2	Third- and Second-Degree Price Discrimination	Chapter 11: Strategies that Yield even Greater Profits ("Extracting Surplus from Consumers")
	Tue, Dec 7	Two-part Pricing, Other Pricing Strategies	Chapter 11: The Remainder of "Strategies that Yield even Greater Profits"
	Thu, Dec 9	Lecture or Review Session	
	Module 7 Problem Set due on Dec 12 (Sun), 11:59pm		
Final Exam	Tue, Dec 14	Q&A before final	
	Thu, Dec 16	Covers Module 1-7 (7:50pm-9:50pm)	

* These arrangements are tentative. I reserve the authority to make any adjustment whenever needed.

**Readings refer to *Managerial Economics and Business Strategy* chapters and subsections. You should finish the corresponding reading after each class.

STATEMENT ON ACADEMIC INTEGRITY

Needless to say, academic misconduct of any kind will not be tolerated. A student's submission of work for academic credit indicates that the work is the student's own. All outside assistance should be acknowledged, in the form of adequate and complete citations and clear indication of the portion of work attributed to others. **If you cheat on any assignment or exam or commit plagiarism or any other academic misconduct, you will fail the course.** For further information regarding the Code of Academic Integrity: <https://college.indiana.edu/student-portal/undergraduate-students/academic-integrity.html>

STUDENTS WITH APPROVED DISABILITIES

If you desire accommodations for a disability, contact me outside of class and present to me the written supporting memorandum of accommodation from the Office of Disability Services for Students (see more details at: <https://studentaffairs.indiana.edu/disability-services-students/>). Any Request for disability accommodations should be received and authorized by me, in written form, no less than two weeks in advance of your need. This is required to allow adequate time to review and make appropriate arrangements. Simply having a memorandum and/or a belief that you should be given special arrangements does not entitle you to them.

SEXUAL MISCONDUCT AND TITLE IX

As your instructor, one of my responsibilities is to create a positive learning environment for all students. IU policy prohibits sexual misconduct in any form, including sexual harassment, sexual assault, stalking, sexual exploitation, and dating and domestic violence. If you have experienced sexual misconduct, or know someone who has, the University can help. If you are seeking help and would like to speak to someone confidentially, you can make an appointment with the IU Sexual Assault Crisis Services at 812-855-5711 or contact a Confidential Victim Advocate at 812-856-2469 or cva@indiana.edu.

It is also important that you know that University policy requires me to share certain information brought to my attention about potential sexual misconduct, with the campus Deputy Sexual Misconduct & Title IX Coordinator or the University Sexual Misconduct & Title IX Coordinator. In that event, those individuals will work to ensure that appropriate measures are taken, and resources are made available. Protecting student privacy is of utmost concern, and information will only be shared with those that need to know to ensure the University can respond and assist. I encourage you to visit <http://stopsexualviolence.iu.edu> to learn more.

UNAUTHORIZED USE, SALE, OR DISTRIBUTION OF COURSE MATERIAL AND CONTENT

The course materials of this course are largely adopted from McGraw-Hill instructor resources. I modified part of the slides and self-created others. I hold the exclusive right to distribute, modify, post, and reproduce any course materials that I self-created, including written materials, study guides, lectures, assignments, exercises, and exams. Commercial tutoring services and/or online platforms may offer students something of value (money, access to materials for other courses, etc.) for sharing materials from this class. Doing so is a violation of intellectual property rights of textbook authors and may violate related university policies.

In addition, some online course content may be made available to you to view and download. While you are permitted to take notes on such content for your personal use, you are not permitted to distribute or re-post such content either in its original or in altered form without express written permission.

Violation of course rules involving unauthorized or improper use, sale, or distribution of course material and content as outlined above is considered as academic misconduct under the IU Code of Student Rights, Responsibilities, and Conduct and is subject to sanction.

COVID ACCOMMODATION

If a student faces an unavoidable emergency that prevents him/her from contacting the professor and advisor in advance, the student should strive to notify the faculty member and advisor within 24 hours of the missed assignment or quiz/exam. In cases where notification occurs after a due date/time and a satisfactory resolution cannot be worked out between the student and faculty member, the matter may be reviewed by a committee comprised of Kelley School faculty and staff. This committee will evaluate the student's request and explanation for why he/she could not notify the faculty member in advance. The committee will evaluate the situation (using supporting documentation provided by the student) and offer a recommended course of action to the faculty member. Ultimately, the faculty member has the final authority for determining how the matter will be handled and for notifying the student of the resolution. If a student feels his/her case has not been handled properly, the student can pursue the normal grade appeal process.

In short, *students must notify instructors directly if they need a COVID-related accommodation because of illness, isolation from a positive test, quarantine from being a "close contact," or other pandemic-related issues that interfere with class responsibilities. I will respect student privacy interests in health-related information and will not share this information with others.*

If you have a positive COVID-19 test, have COVID-like symptoms, or have been instructed to quarantine you should not attend class. To ensure that you can do this, any attendance-related credits in this class

will not lower a student's grade when that student was absent due to compliance with campus isolation expectations. For those students, alternative assignments or make-ups will be offered on a case-by-case basis. Please work with me to determine a path to continue your progress in this course during these absences. I will try my best to help you in any way that fits within course objectives.

The university also offer a wide range of support services for student's mental health, especially under the situation of pandemic. Please visit the Counseling and Psychological Services (CAPS) website at <https://healthcenter.indiana.edu/ounseling/index.html> or <https://studentaffairs.indiana.edu/student-support/get-help/index.html> for more information.

BIAS-BASED INCIDENT REPORTING

Bias-based incident reports can be made by students, faculty, and staff. Any act of discrimination or harassment based on race, ethnicity, religious affiliation, gender, gender identity, sexual orientation or disability can be reported through any of the options: (1) email biasincident@indiana.edu or incident@indiana.edu; (2) call the Dean of Students Office at (812) 855-8188; or (3) use the IU mobile App (<https://m.iu.edu>). Reports can be made anonymously.

RELIGIOUS AND CIVIC OBSERVANCES

Students missing class for a religious observance can find the officially approved accommodation form by going to the Vice Provost for Faculty and Academic Affairs webpage for religious accommodations (<https://vpfaa.indiana.edu/faculty-resources/teaching-resources/religious-observances-information.html>). The form must be submitted at least 2 weeks prior to the anticipated absence.

APPENDIX: BLOOMINGTON UNDERGRADUATE PROGRAM LEARNING GOALS AND STUDENT LEARNING OUTCOMES (SLO'S)

Goal 1: An Integrative Point of View

Evaluate and make business decisions taking into account the interdependent relationships among competitive and environmental conditions, organizational resources, and the major functional areas of business.

- **SLO 1.1:** Identify the relationships between two or more business functions; explain how actions in one functional area affect other functional areas.
- **SLO 1.2:** Describe how the relationships among the functional areas relate to the goals of the organization.
- **SLO 1.3:** Use integrative techniques, structures, or frameworks to make business decisions.

Goal 2: Ethical Reasoning

Recognize ethical issues, describe various frameworks for ethical reasoning, and discern the tradeoffs and implications of applying various ethical frameworks when making business decisions.

- **SLO 2.1:** Identify the ethical dimension(s) of a business decision.
- **SLO 2.2:** Recognize the tradeoffs created by application of competing ethical theories and perspectives.
- **SLO 2.3:** Formulate and defend a well-supported recommendation for the resolution of an ethical issue.

Goal 3: Critical Thinking and Decision Making in Business

Identify and critically evaluate implications of business decisions for organizational stakeholders and the natural environment.

- **SLO 3.1:** Recognize the implications of a proposed decision from a variety of diverse stakeholder perspectives.
- **SLO 3.2:** Evaluate the integrity of the supporting evidence and data for a given decision.
- **SLO 3.3:** Analyze a given decision using critical techniques, structures, or frameworks.

Goal 4: Communication and Leadership

Communicate effectively in a wide variety of business settings employing multiple media of communications.

- **SLO 4.1:** Deliver clear, concise, and audience-centered individual and team presentations.
- **SLO 4.2:** Write clear, concise, and audience-centered business documents.
- **SLO 4.3:** Effectively participate in informational and employment interviews.
- **SLO 4.4:** Articulate one's unique value proposition to a given audience.

Goal 5: Quantitative Analysis and Modeling

Systematically apply tools of quantitative analysis and modeling to make recommendations and business decisions.

- **SLO 5.1:** Use appropriate technology to solve a given business problem.
- **SLO 5.2:** Analyze business problems using appropriate mathematical theories and techniques.
- **SLO 5.3:** Explain the role of technologies in business decision making analysis, or modeling.
- **SLO 5.4:** Structure logic and frame quantitative analysis to solve business problems.

Goal 6: Team Membership & Inclusiveness

Collaborate productively with others, functioning effectively as both members and leaders of teams.

- **SLO 6.1:** Facilitate team meetings and collaborate effectively in both face-to-face and virtual interactions.
- **SLO 6.2:** Identify and employ best team practices.
- **SLO 6.3:** Assess and offer feedback on one's own effectiveness as well as one's team members' effectiveness with respect to productivity and relationship-building in both oral and written formats.
- **SLO 6.4:** Articulate and analyze the value of inclusivity in a variety of business settings.

Goal 7: Cultural awareness and global effectiveness

Become conversant with major economic, social, political, and technological trends and conditions that influence the development of the global economy and demonstrate competence in the cultural, interpersonal and analytical dimensions of international business.

- **SLO 7.1:** Identify the risks and opportunities associated with determining and implementing optimal global business strategies.
- **SLO 7.2:** Integrate international, regional, and local non-market forces into strategic decisions of multinational corporations.
- **SLO 7.3:** Analyze obstacles resulting from cultural differences and recommend leadership approaches that leverage diversity to enhance business performance.
- **SLO 7.4:** Identify the personal and contrasting attitudes, values, and beliefs that shape business relationships.