

**Professor:** Yanhui Wu

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*All the materials of this course, including the syllabus, lecture slides, problem sets, and readings are used only by students who have registered to this course. Distributing any of these materials to other people or posting them to the Internet without permission of the instructor is regarded as infringing copyrights and the university policy.*

### **COURSE DESCRIPTION**

This is an intermediate level course in microeconomics mainly for students who major in economics, finance, and business related disciplines. The aim is twofold: 1) to develop students' analytical ability for decision making both within and beyond the area of business; and 2) to teach students the basic knowledge of microeconomics that forms the foundation of other subjects such as macroeconomics, finance, and business strategy.

The course will consist of four parts: 1) Introduction to modern microeconomics; 2) Price theory; 3) Game Theory; and 4) Selected topics that are related to informational economics. The first two parts will be covered before the mid-term and the last two parts will be covered in the remaining time of the semester.

### **Learning Objectives**

This course will support primarily the first three of the following goals of the Marshall School of Business' program:

1. Our graduates will have an understanding of the key business areas and their interplay to effectively manage different types of modern enterprise.
2. Our graduates will have a global mindset demonstrating an understanding of the interplay of local, regional, and international markets, and economic, social and cultural issues.
3. Our graduates will demonstrate critical thinking skills, decision-making, and problem-solving abilities to strategically navigate complex demands of business environments.
4. Our graduates will demonstrate leadership skills, aspiring to be informed, sensible, future-oriented leaders and innovators.
5. Our graduates will demonstrate ethical reasoning skills, understand social, civic and professional responsibilities and aspire to add value to society.
6. Our graduates will be effective communicators in speaking and writing to facilitate information flow in organizational, social, and intercultural contexts.

## **Prerequisites**

Analytical ability is hard to develop without mathematics. I will keep the math used in this course to a reasonably low level. However, solid knowledge of high-school algebra, elementary calculus, and elementary probability are required. You are expected to have taken MATH 118 or other math courses at a similar level. If you don't feel comfortable with calculus. The following free on-line course is useful <http://ocw.mit.edu/resources/res-18-005-highlights-of-calculus-spring-2010/>.

## **Lectures and Problem Sets**

**Lectures** are the most important part of this course. Students are expected to attend lectures regularly, with preparation to discuss the reading assignment for each respective lecture period. To make you better prepared, I will post lecture slides before each class. But to achieve the maximum learning effect, I will deliberately leave some slides incomplete so that we can work through them in class. It is your responsibility to borrow notes from classmates if you miss a lecture.

**Problem sets** are an integrated part of this course and are absolutely required. I will assign four problem sets as homework. Although you don't need to hand in your solutions, these problem sets are crucial for exam performance. Treat them seriously! Some problem sets are fairly long. You should work on the corresponding questions IMMEDIATELY after each lecture. I expect you spend more time solving homework problem sets than reading textbooks.

**Class structure.** Each lecture will last about 90 minutes with no break. Typically, I will spend the first one hour lecturing and the remaining 30 minutes working through specific problems and technical issues. Please prepare a pad of paper to take notes in class.

## **Communication**

### **Blackboard**

The main forum of this course is Blackboard (<http://blackboard.usc.edu>). I will post lecture slides, additional notes and exercises, quizzes and solutions, and announcements to the Blackboard. You are responsible to check the Blackboard regularly and download these materials.

### **Office Hours**

I will hold two regular office hours (2:30- 3:30 pm on Monday and Wednesday) during the term time. Please use these two hours as much as possible. They are your time! If you cannot visit me during my office hours, I am happy to make an appointment to talk with you, but please email me in advance.

### **Emails**

The best way to reach me is via emails (of course, call me in case of emergency). I will respond to your inquiry as soon as possible. However, if you email me tricky questions and I believe that it is not feasible to give satisfactory answers via emails, I will ask you to come to my office hours.

## READING MATERIAL

The lectures and problem sets for our class are self-contained, meaning that they are not dependent on any other material. No exams will go beyond the scope of lectures and problem sets. Nevertheless, it is very useful to study a textbook accompanying this course. I expect you to browse the lecture slides and ideally read the corresponding chapters in the textbook BEFORE class.

The official textbook in this course is **Microeconomics for Business** (Third Customized Edition for USC, ISBN: 1269953524), which contains 15 chapters from the book **Microeconomics by Pindyck and Rubinfeld**, 8<sup>th</sup> edition, and 3 chapters from the book **Microeconomics by Hubbard and O'Brien**, 5<sup>th</sup> edition. The textbook is reserved in the USC bookstore. An accompanying study guide and an on-line learning lab (MyEcon Lab) are also available. Although they may be helpful for reviewing basic concepts, neither the study guide nor the MyEcon Lab is required and directly related to any exams.

Given the high price of the textbook, it is reasonable for students to purchase a used textbook. There are only minor differences in Chapters 1-3 (including the exercises) between the Third Customized Edition for USC and the Second Edition. The major difference between this customized book and the book **Microeconomics** by Pindyck and Rubinfeld (either 7th or 8th edition) is the additional three chapters from Hubbard and O'Brien.

**Supplemental reading.** Business and economics students are strongly encouraged to read popular business publications, such as the **Economist** (<http://www.economist.com/>) and **The Wall Street Journal** (see [www.wsj.com/class](http://www.wsj.com/class) for student subscription at a highly discounted rate).

For students who haven't formed the habit of reading business papers, you may find the following books interesting and useful.

### **Additional textbook:**

*Principles of Microeconomics*, Gregory Mankiw, any edition published in the last five years. (This book is more accessible for students who had little background in economics than the official textbook. But it is written at a level below our course requirement.)

### **For students who aim for a career in finance and related areas:**

*Finance and the Good Society*, Robert Shiller, Princeton University Press, 2013.  
*Liar's Poker*, Michael Lewis, W. W. Norton & Company, 2010  
*Flash Boys*, Michael Lewis, W. W. Norton & Company, 2014

### **For students who aim for being an entrepreneur or a business consultant:**

*Roadside MBA*, Mazzeo, Oyer, and Schaefer, Business Plus, 2014  
*The Halo Effect*, Phil Rosenzweig, Free Press, Reprint, 2014  
*The Innovator's Dilemma*, Clayton M. Christensen, Harvard Business Review Press, Reprint, 2013.

### **For students who are interested in social problems and public policy:**

*Capitalism and Freedom*, Milton Friedman, University Of Chicago Press; 40 Anv edition, 2002  
*Capital in the Twenty-First Century*, Thomas Piketty, Belknap Press, 2014  
*Freakonomics*, Steven Levitt and Stephen Dubner, Harper Perennial, Reprint, 2009

The above supplemental materials are optional and not related to exams, but they help students get familiar with the real business world and practice analytical ability. You are welcome to discuss real world economic issues with me, either in class or during my office hours.

## GRADING POLICIES

Your semester score will be based on three (out of four) quizzes, one mid-term exam, and one final exam. For each quiz/exam, you will receive a score from 0 to 100 points. At the end of the semester, I will compute your weighted average semester as follows:

$$\text{Semester Score} = 10\% * \text{Best Quiz} + 10\% * \text{Second Best Quiz} + 10\% * \text{Third Best Quiz} + 30\% * \text{Midterm} + 40\% * \text{Final Exam}.$$

All the quizzes and exams consist of ONLY multiple choice questions. Each quiz will address the subject matter that precedes it. The midterm covers the first two parts of the course. The final exam is cumulative. Details (coverage of material, exam formats, and duration) will be announced later.

For individual quizzes/exams, I will NOT implement a “curve” or hard target for the distribution of class grades. I will only assign a GPA-convertible letter grade based on your semester score after the final exam. In your final grading, I will attempt to follow the School’s recommended target for the **mean** GPA: 3.0 (letter grade: B).

### Some Grim Rules

When a class is of a large size, some strict rules are necessary to achieve efficiency and maintain fairness for the majority. In this course, I will impose the following grim rules – “grim” means “no negotiation” in this context.

1. **No extra credit apart from the quizzes and exams will be assigned to your final grades.** Class participation, office visits, homework, and papers don’t count.
2. University policy requires the final exam to be given at the time indicated on the University’s final exam schedule (see [http://registrar.sc.edu/html/calendar/exam\\_1408.stm](http://registrar.sc.edu/html/calendar/exam_1408.stm)). **No student is allowed to take the final exam earlier or to skip the final exam.** Instructors do not have discretion to grant exceptions to this policy.
3. **No make-up tests will be given in any circumstance.** If you miss a quiz or the mid-term exam because of serious health problems, I can reduce the weights of the missed ones and increase the weights of the others accordingly upon **a written request with formal documentation and signature from your doctors. If you have to miss a test for religious reasons, a formal request for weight adjustment should be made at least two weeks before the test.** The School will verify the validity of your request. I will not consider any other reasons for weight adjustment of your scores and will pass your request, if you insist on its validity, to the Department for decisions.
4. **Regrading must be requested within one week of the date when the exam is returned to the class.** Students requesting for regrading must submit a written and precise explanation of why he/she thinks that the grade should be modified. The entire exam will be regraded and the final mark may go up or down. Returned paperwork, unclaimed by a student, will be discarded after 4 weeks and hence, will not be available should a grade appeal be pursued by a student following receipt of his/her course grade.

## **MARSHALL GUIDELINES**

### **Add/Drop Process**

If you are absent six or more times prior to **Nov.14** (the last day to withdraw from a course with a grade of “W”), I may ask you to withdraw from the class by that date. These policies maintain professionalism and ensure a system that is fair to all students.

### **Technology Policy**

Laptop and Internet usage is not permitted during lectures. Use of other personal communication devices, such as cell phones, is considered unprofessional and is also not permitted. ANY e-devices (cell phones, PDAs, I-Phones, Blackberries, other texting devices, laptops, I-pods) must be completely turned off during class time. Upon request, you must comply and put your device on the table in off mode and FACE DOWN. You might also be asked to deposit your devices in a designated area in the classroom. Videotaping faculty lectures is not permitted due to copyright infringement regulations. Audiotaping may be permitted but please ask for my permission. Use of any recorded or distributed material is reserved exclusively for the USC students registered in this class.

### **Statement for Students with Disabilities**

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776. For more information visit [www.usc.edu/disability](http://www.usc.edu/disability) .

### **Statement on Academic Integrity**

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one’s own academic work from misuse by others as well as to avoid using another’s work as one’s own. All students are expected to understand and abide by these principles. *SCampus*, the Student Guidebook, ([www.usc.edu/scampus](http://www.usc.edu/scampus) or <http://scampus.usc.edu>) contains the University Student Conduct Code (see University Governance, Section 11.00), while the recommended sanctions are located in Appendix A.

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/> . Failure to adhere to the academic conduct standards set forth by these guidelines and our programs will not be tolerated by the USC Marshall community and can lead to dismissal.

### **Emergency Preparedness/Course Continuity**

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies.

Please activate your course in Blackboard with access to the course syllabus. Whether or not you use Blackboard regularly, these preparations will be crucial in an emergency. USC's Blackboard learning management system and support information is available at [blackboard.usc.edu](http://blackboard.usc.edu).

## COURSE CALENDAR/READINGS/CLASS SESSIONS

*In what follows, **Lecture Slide** is referred to the lecture slides that I post on blackboard and will be covered in class. **Text** is referred to the official textbook, **Microeconomics for Business** (Third Customized Edition for USC). If you use other textbooks, you should check the titles of the sections I list below and find the corresponding material in the textbook you use. All the additional reading material (if there is any) will be made available in blackboard before the corresponding lectures. **PS** is referred to the problem sets that we will discuss during the sessions. I will try to stick to this preset course calendar as much as possible, but some changes may be necessary, depending on the course progress. In the case of changes, I will make announcements in advance.*

### **Part 1. Introduction**

#### **(August 25) Session 1. Course Overview**

**Lecture Slides:** Lecture 1

**Text:** chapter 1 (Economics: Foundations and Models)

#### **(August 27) Session 2. Structural Model: Supply and Demand Analysis**

**Lecture Slides:** Lecture 2

**Text:** chapter 4 (The Basics of Supply and Demand), Section 4.1. (Supply and Demand), 4.2 (the Market Mechanism), 4.3 (Changes in Market Equilibrium), and Section 4.7 (Effects of Government Intervention).

**PS:** : Problem Set 1, Questions 1-8

**No class on September 1 (the Labor Day).**

#### **(September 3) Session 3. Behavior Model: Rationality and Optimization**

**Lecture Slides:** Lecture 3

**Additional Readings:**

Itzhak Gilboa: [Rational Choice](#), Chapter 2

Freedman: It's not you. It's Quantitative Cost-Benefit Analysis

**PS:** Problem Set 1, Questions 9-12

#### **(September 8) Session 4. Behavior Model: Utility and Profit Maximization**

**Lecture Slides:** Lecture 4

**PS:** Problem Set 1, Questions 13-15

## Part 2. Price Theory

### (September 10) Session 5. Preferences

**Lecture Slides:** Lecture 5

**Text:** Chapter 5 (Consumer Behavior), Section 5.1. (Consumer Preferences)

**PS:** Problem Set 1, Question 16 - 18

### (September 15) Session 6. Quiz 1

### (September 17) Session 7. Optimal Consumption Choice

**Lecture Slides:** Lecture 6

**Text:** Chapter 5 (Consumer Behavior), Section 5.2 (Budget Constraints) and Section 5.3 (Consumer Choice); Chapter 6 (Individual and Market Demand), Section 6.1 (Individual Demand).

**PS:** Problem Set 2, Questions 1, 2, 11, 12

### (September 22) Session 8. Market Demand

**Lecture Slides:** Lecture 7

**Text:** Chapter 6 (Individual and Market Demand), Section 6.2 (Income and Substitution Effects), Section 6.3 (Market Demand), and Section 6.4 (Consumer Surplus).

**PS:** Problem Set 2, Questions 3, 13, 14, 15, 16

### (September 24) Session 9. Production

**Lecture Slides:** Lecture 8

**Text:** Chapter 8 (Production), Section 8.1 (Firms and Their Production Decisions), Section 8.3 (Production with Two Variable Inputs) and Section 8.4 (Returns to Scale).

**PS:** Problem Set 2, Questions 4, 5, 17, 18

### (September 29) Session 10. Cost

**Lecture Slides:** Lecture 9

**Text:** Chapter 9 (The Cost of Production), Section 9.1 (Measuring Cost: Which Costs Matter?), Section 9.2 (Cost in the Short run), Section 9.3 (Cost in the Long Run), 9.4 (Long-run versus Short-run Cost Curves)

**PS:** Problem Set 2, Questions 6, 7, 8

### (October 1) Session 11. Profit Maximization and Supply, Part I

**Lecture Slides:** Lecture 10

**Text:** Chapter 10 (Profit Maximization and Competitive Supply), Section 10.1 (Perfectly Competitive Markets), Section 10.2 (Profit Maximization), Section 10.3 (Marginal Revenue, Marginal Cost, and Profit Maximization), 10.4 (Choosing Output in the Short Run)

**PS:** Problem Set 2, Questions 9, 19

### (October 6) Session 12.: Quiz 2

### **(October 8) Session 13. Profit Maximization and Supply, Part II**

**Lecture Slides:** Lecture 10

**Text:** Chapter 10 (Profit Maximization and Competitive Supply), Section 10.5 (The Competitive Firm's Short-Run Supply), Section 10.6 (The Short-Run Market Supply Curve), Section 10.7 (Choosing Output in the Long Run), 10.8 (The Industry's Long-Run Supply Curve)

**PS:** Problem Set 2, Questions 10, 20, 21

### **(October 13) Session 14. Market Equilibrium and Government Intervention**

**Lecture Slides:** Lecture 11

**Text:** Chapter 11 (The Analysis of Competitive Markets), Section 11.1 (Evaluating the Gains and Losses from Government Policies), Section 11.2 (The Efficiency of a Competitive Market), Section 11.3 (Minimum Prices), 11.6 (The Impact of a Tax or Subsidy)

**PS:** Problem Set 2, Questions 22, 23

## **Part 3. Game Theory**

### **(October 15) Session 15. Introduction to Games and Strategy**

**Lecture Slides:** Lecture 12

**Text:** Chapter 15 (Game Theory and Competitive Strategy), Section 15.1 (Gaming and Strategic Decisions), Section 15.2 (Dominant Strategies)

**PS:** Problem Set 2, Questions 24, 25, 26

### **Session 16. (October 20): Mid-term Exam**

### **(October 22) Session 17. Static Games**

**Lecture Slides:** Lecture 13

Robert Gibbons, An Introduction to Applicable Game Theory, Journal of Economic Perspective, 1997, pp.127-49. Section 1 and 2.

**PS:** Problem Set 3, Questions 1, 2

### **(October 27) Session 18. Sequential Games**

**Lecture Slides:** Lecture 14

**Text:** Chapter 15 (Game Theory and Competitive Strategy), Section 15.5 (Sequential Games), Section 15.6 (Threats, Commitments, and Credibility), and Section 15.6 (Entry Deterrence)

**PS:** Problem Set 3, Questions 3-6

### **(October 29) Session 19. Industrial Organization I: Monopoly**

**Lecture Slides:** Lecture 15

**Text:** Chapter 12 (Market Power: Monopoly and Monopsony), Section 12.1 (Monopoly), Section 12.2 (Monopoly Power), Section 12.3 (Sources of Monopoly Power), and Section 12.7 (Limiting Market Power: The Antitrust Laws)

**PS:** Problem Set 3, Questions 7-10



**(November 3) Session 20. Industrial Organization II: Oligopoly**

**Lecture Slides:** Lecture 16

**Text:** Chapter 14 (Monopolistic Competition and Oligopoly), Section 14.2 (Oligopoly), Section 14.3 (Price Competition)

**PS:** Problem Set 3, Questions 11-13

**(November 5) Session 21. Industrial Organization III: Welfare Analysis of Market Structure**

**Lecture Slides:** Lecture 16

**PS:** Problem Set 3, Questions 14, 15

**(November 10) Session 22. Industrial Organization IV: Market Design**

**Lecture Slides:** Lecture 17

**Text:** Chapter 15 (Game Theory and Competitive Strategy), Section 15.8 (Auctions)

**PS:** Problem Set 3, Questions 16-18

**(November 12) Session 23. Quiz 3**

**Part 4. Selected Topics on Information Economics**

**(November 17) Session 24. Decisions under Uncertainty**

**Lecture Slides:** Lecture 18

**Text:** Chapter 7 (Uncertainty and Consumer Behavior), Section 7.1 (Describing Risk), Section 7.2 (Preferences Toward Risk)

**(November 19) Session 25. Risk Management**

**Lecture Slides:** Lecture 19

**Text:** Chapter 7 (Uncertainty and Consumer Behavior), Section 7.3 (Reducing Risks)

**PS:** Problem Set 4, Questions 1, 5, 6

**(November 24) Session 26. Asymmetric Information: Part I**

**Lecture Slides:** Lecture 20

**Text:** Chapter 17 (Market with Asymmetric Information), Section 17.1 (Quality Uncertainty and the Market for lemons), Section 17.2 (Market Signalling)

**PS:** Problem Set 4, Questions 2, 7, 8

**No class on November 27 (Thanksgiving Holiday)**

**(December 1) Session 27. Asymmetric Information: Part II**

**Lecture Slides:** Lecture 21

**Text:** Chapter 17 (Market with Asymmetric Information), Section 17.3 (Moral Hazard), Section 17.4 (The Principal-Agent Problem)

**PS:** Problem Set 4, Questions 3, 9, 10

**(December 3) Session 28. Quiz 4 and Review of Part 4**

**Final Exam: Between December 8-15.**

Check [http://registrar.sc.edu/html/calendar/exam\\_1408.stm](http://registrar.sc.edu/html/calendar/exam_1408.stm) for your own exam schedule.