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Microeconomics
Business 33001
Term: Spring 2009

SYLLABUS

A. Administrative Information

Contact Information

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B. Materials

Required: *Microeconomics* (3rd edition), D. Besanko and R. Braeutigam, Wiley, 2007
Course pack: Contains articles from magazines, newspapers and journals.

Supplemental (not required) *The Economic Naturalist: In Search of Explanations for Everyday Enigmas*, R. Frank, Basic Books, 2007

C. Course Overview

This course introduces students to the concepts and tools of modern microeconomics and illustrates how the concepts and tools apply to managerial decision-making. The topics covered in the course include the demand-supply model and market equilibrium, consumer behavior and demand theory, firm behavior and production theory, perfect competition, monopoly and price discrimination, imperfect competition, game theory and information economics.

The course combines a variety of pedagogical approaches including lectures, interactive discussions, problem solving and independent reading. The lectures and interactive discussions provide an opportunity to develop and discuss conceptual ideas, evidence and applications. The homework assignments and independent readings help you build and consolidate your understanding of the tools and concepts.

Please be sure to read the articles and the (relevant) chapters from the text book *before* the material is discussed in class.

Mathematics

The primary emphasis throughout this course is on developing economic intuition. But I will often use mathematics to communicate ideas that are otherwise difficult to explain using plain English.

The mathematics requirements for this course are:

- The ability to graph an equation.
- The ability to solve two equations in two variables.
- A solid understanding of what a derivative provides us with; the short answer is “the slope of a function at a point.”
- The ability to differentiate very simple equations such as $f(x) = a + bx + cx^2$, $g(x) = a + bx^c$, $h(x) = w(x)z(x)$.

Please be sure to refresh your understanding of algebra and calculus *before* the course begins.

The teaching assistant (TA) will conduct a review session during week 1 of the term. The date, time and room will be announced in session 1.

Learning Objectives

By the end of this quarter, you should be able to:

- Articulate conceptual and practical solutions to the central microeconomic challenges that firms, consumers and economies confront
- Using the supply-demand model, identify and describe the market equilibrium
- Solve (graphically and mathematically) the consumer optimization problem

- Compute and interpret the price elasticity of demand, the cross-price elasticity of demand and income elasticity of demand
- Compute and interpret the cost metrics of relevance for business decisions
- Articulate the mechanics of the model of perfect competition and examine its implications
- Solve the monopoly pricing model and sketch the solutions for the 1st degree, 2nd degree and 3rd degree price discrimination problems
- Formalize games in extensive and normal forms and solve them using the Nash equilibrium and sequential equilibrium concepts
- Sketch and solve the Cournot, Bertrand and Stackelberg models
- Assess and interpret risk and attitudes towards risk
- Interpret and apply important concepts in information economics such as moral hazard and adverse selection

D. Course Requirements and Grading

Your grade in this course will be based on 3 components:

- Homework assignments (20%)
- Mid-term exam (30%)
- Final exam (50%)

Homework Assignments

I have assigned 4 homework assignments for this term.

- The homework assignments are to be submitted in *groups* of 4 or 5
- The homework questions will be distributed in class and posted on the course site at the start of the term
- Each homework assignment will count for 5% of your final grade: the 4 homework assignments together will count for 20% of your final grade

- The homework assignments are due at the start of sessions 3, 5, 7 and 9 respectively
- Solutions to the homework assignments will be posted on the course site after all assignments have been graded
- A TA will grade all homework assignments and will be available for consultation

Exams

The mid-term exam will be held in class in the first half of session 6 and the final exam will be held during final exam week. Both exams are closed book exams. The format of the exams will be discussed in class.

Lecture Notes

Each of the topics has its own set of lecture notes. The lecture notes from Spring 2008 are posted on the course site. I will make changes to these notes as the quarter progresses and will distribute the latest draft of each session's notes before the start of the session.

Review Session

I will hold a review session during the week before the mid-term and final exams.

E. Honor Code

Students are expected to adhere to the terms of the GSB's honor code and to the GSB standards of scholarship. I also require students to sign the following GSB honor code pledge on all assignments and exams.

"I pledge my honor that I have not violated the GSB honor code during this case write-up and examination."

G. Class Schedule

This is a *tentative* week-by-week syllabus.

Session 1: Demand, Supply, Industries and Markets

- The economic problem: resource allocation and price determination
- Demand and supply analysis
- Market equilibrium and comparative statics
- Price elasticity, income elasticity and cross-price elasticity

Readings: Besanko and Brauetigam, Chapter 1 (pages 1-17) and Chapter 2 (pages 22-50)

“Eureka Moments Seldom Happen to Economists,” *Financial Times*, 09/18/06

“The Rapidly Changing Signs at the Gas Station Show Markets at Work,”
New York Times, 08/24/06

Session 2: Consumer Theory

- Utility functions
- Indifference curves
- Budget constraints & optimal choice

Readings: Besanko and Brauetigam, Chapter 3 (pages 69-94), Chapter 4 (pages 98-111)
and Chapter 5 (pages 136-145)

“Deviations from the Mean,” *The Economist*, 03/23/02

Session 3: Firm Theory I: Inputs, Production and Costs

- Production functions
- Diminishing returns
- Returns to scale

Readings: Besanko and Brauetigam, Chapter 6 (pages 185-218), Chapter 7 (pages 225-232)

“Technology Levels the Playing Field,” *New York Times*, 08/25/05

Session 4: Firm Theory II: Inputs, Production and Costs

- Opportunity cost and sunk cost
- Short and long run cost curves
- Economies of scope

Readings: Besanko and Brauetigam, Chapter 8 (pages 263-289).

“American Companies Show an Edge in Putting Information to Work,” *New York Times*, 01/12/06

Session 5: Perfect Competition

- Characterizing perfectly competitive markets
- Profit maximization by a competitive firm
- Short run equilibrium
- Long run equilibrium

Readings: Besanko and Brauetigam, Chapter 9 (pages 304-324 and 341-352)

“A Question of Management,” *The Economist*, 06/11/05

“Competition and Incentives May Help Control Health Care Costs,” *New York Times*, 11/18/04

Session 6: Monopoly and Price Discrimination

Mid-Term Examination: First 120 Minutes

- Monopoly pricing: graphics and mathematics
- Social objections to monopoly
- Price discrimination

Readings: Besanko and Brauetigam, Chapters 11 (pages 412-428) and Chapter 12 (pages 455-485)

“The Dynamics of Pricing Tickets for Broadway Shows,” *New York Times*, 01/13/03

Session 7: Game Theory

- Extensive forms and normal forms
- Simultaneous games: Nash equilibrium and dominant strategies

Readings: Besanko and Brauetigam, Chapter 14 (pages 536-560)

“You’ve Seen the Movie. Now Just Exactly What Was It That John Nash Had On His Beautiful Mind,” *New York Times*, 04/11/02

“Love Will Conquer Game Theory,” *Financial Times*, 12/19/02

“Auditors Need to Escape the Prisoners’ Dilemma,” *New York Times*, 05/16/06

Session 8: Imperfect Competition

- Cournot model
- Bertrand model

Readings: Besanko and Brauetigam, Chapter 13 (pages 495-511)

“War Games,” *The Economist*, 10/15/05

Session 9: Risk & Uncertainty

- Describing risk
- Evaluating risky outcomes
- Bearing and eliminating risk

Readings: Besanko and Brauetigam, Chapter 15 (pages 568-583)

“Learning to Live with Uncertainty,” *The Economist*, 01/24/04

“Risk MisManagement,” *New York Times Magazine*, January 4, 2009

“Prudence is Knowing that all Swans are not White,” *Financial Times*, 04/15/07

Session 10: Information Economics

- Moral hazard
- Adverse selection

Readings: Shivakumar, R., “Information Economics” (posted on course site)

Final Exam Week:

In-class final exam