Winter 2007 Economics 310-1 Professor Savage

MICROECONOMICS

Instructor: Professor Ian Savage, 330 Andersen Hall, 847-491-8241, ipsavage@northwestern.edu

Teaching Assistants:
Faress Bhuiyan, 317 Andersen Hall, 847-491-8246, m-bhuiyan@northwestern.edu
Siddarth Madhav, 3248 Andersen Hall, 847-491-5690, siddarth@northwestern.edu
Thor Sletten, 3250 Andersen Hall, 847-491-5691, thor@northwestern.edu

Course Description: This is the first of the Department's two-part sequence in intermediate microeconomics. This course forms part of the core requirements for both a major and minor in economics. The course is the foundation for all of the microeconomic-oriented 300-level courses offered by the Economics Department. The objective of the course is to present a set of concepts and analytical techniques that are vital to any microeconomic analysis.

The first quarter of 310 is concerned with the analysis of consumer and producer choices in market economies and with the nature of equilibria in competitive and monopolistic markets. The course starts revising the basic supply and demand model that students will be familiar with from Economics 202. The course then “looks behind” these two curves to understand where they come from and the properties that they have. We initially look at the theory of individual consumer choice and the derivation of individual and market demand curves. We then present an analysis of the economics of production and the derivation of cost functions. Market equilibrium concepts will then be discussed as they apply to markets characterized by perfect competition and monopoly. The perfectly competitive and monopoly models are then used to analyze common economic problems and phenomena.

Equilibrium in oligopolistic and monopolistic competitive situations will be discussed in the follow-up course Economics 310-2. This follow-up course also discusses the role of information in market equilibria, employment and the demand for factors of production, general equilibrium in the economy, and common failures of the market system.

Prerequisites: Students should have completed (or at least be familiar with) the material covered in Economics 201 and 202 (Introduction to Economics), and, at the minimum, Mathematics 220 (Differential Calculus). Calculus will be used in the course. Economics 281 can be taken concurrently as this is a theoretical rather than empirical course.

Course Content: A syllabus of topics to be covered and a class schedule are attached.

Lectures: Three one-hour lectures a week on Monday, Wednesday and Friday at 1pm in LR2 in the Technological Institute. There is no lecture on Dr Martin Luther King Jr Day (January 15). The final lecture is Wednesday March 7.
Discussion Sections: Students are also required to attend weekly discussion sections held on Tuesday or Thursdays. The same material is presented on both days. Discussion sections will start in the second week of class (9 & 11 January). The discussion section is an integral part of the course, and attendance is expected. It will be used to expand on ideas presented in the readings and in lectures, and to discuss assigned and graded homework problems and examinations.

Students will attend an assigned session. This will make the logistics of returning examinations and problem sets easier. I have initially allocated students by last name to four sections held at 1pm on Tuesdays and Thursdays:

- Tuesday 1pm Tech MG28 Faress Bhuiyan Last names A-F
- Tuesday 1pm Harris 307 Thor Sletten Last names G-L
- Thursday 1pm Tech LG52 Faress Bhuiyan Last names M-R
- Thursday 1pm Harris 307 Thor Sletten Last names S-Z

Students who have a class time conflict with these times should e-mail Professor Savage by 5pm on Friday January 5. Students with last names A-L will be reallocated to the Tuesday session at 4pm, and students with last names M-Z will be reallocated to the Thursday 4pm session.

Tuesday 4pm Annenberg 101 Siddarth Madhav
Thursday 4pm Annenberg 101 Siddarth Madhav

Hopefully, this will result in discussion sections that are approximately equal in size.

Office Hours:
Feel free to attend whichever office hours are most convenient to you:

- Mondays 2:00-3:30 Andersen 328 Siddarth Madhav (not January 15)
- Tuesdays 10:00-noon Andersen 328 Thor Sletten
- Tuesdays 5:00-7:00pm Andersen 328 Faress Bhuiyan
- Wednesdays 2:30-4:30 Andersen 330 Professor Savage
- Thursdays 10:00-noon Andersen 328 Thor Sletten
- Thursdays 5:00-7:00pm Andersen 328 Faress Bhuiyan
- Fridays 10:00-noon Andersen 330 Professor Savage
- Fridays 2:00-3:30 Andersen 328 Siddarth Madhav (not February 2, 23)

You can arrange for an appointment at other times by e-mailing, telephoning or seeing me or my teaching assistants before or after the lectures and discussion sections.

Evaluation: Evaluation will be made on a final examination (40% of the total points), two midterm examinations (25% each), and seven problem sets (10%). P/N is allowed. The midterm examinations will be held on Friday February 2 and Friday February 23, and the final examination at 9am on Friday March 16. No make-ups will be given for either midterm examination. In the event of a genuine, and verified, illness or emergency I will give the other midterm, the final and the problem sets proportionately extra weight in determining the final grade. Permission to take a make-up final examination or to receive an incomplete in the course can only be obtained from the WCAS Office of Studies and not from the instructor.

Any student with a documented disability needing accommodations is requested to speak directly to the Office of Services for Students with Disabilities (847-467-5530) and the instructor,
as early as possible in the quarter (preferably within the first two weeks of class). All discussions will remain confidential.

The final exam for the course is scheduled for 9am on the Friday of exam week. This is not great. However, my experience is that changing the time for such a large class is next to impossible to achieve. Also, I strongly believe that all students should be evaluated in a fair and equal manner. Therefore, I will not agree to an early examination date for any individual student. To do so would require setting a different exam to that for the other students, and I feel that this would not allow fair and equal evaluation.

The first midterm examination will cover the material in chapter 1 through 5 of the textbook. The second midterm examination will cover material in chapters 6 through 10. The final examination is a comprehensive examination covering all material in the course (chapters 1-12 in the textbook).

Copies of past examinations are attached to this syllabus, and can be used for practice.

**Problem Sets:** There are seven problem sets, which will be graded, and then discussed at the Tuesday and Thursday sessions. Copies of the problems sets are attached to this syllabus. The completed problem sets should be returned to a box marked "310-1" which will be on your right-hand side in the Economics Department Office (Andersen 302) by 5pm on the Friday prior to the relevance discussion sections. Problem sets received late receive zero credit. The schedule for the problem sets is:

<table>
<thead>
<tr>
<th>Set #</th>
<th>Hand in by 5 pm on</th>
<th>Returned and Discussed</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>5 January*</td>
<td>9/11 January</td>
</tr>
<tr>
<td>2</td>
<td>12 January</td>
<td>16/18 January</td>
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<tr>
<td>3</td>
<td>19 January</td>
<td>23/25 January</td>
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<tr>
<td>4</td>
<td>26 January</td>
<td>30 January / 1 February</td>
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<td>5</td>
<td>9 February</td>
<td>13/15 February</td>
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<td>6</td>
<td>16 February</td>
<td>20/22 February</td>
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<tr>
<td>7</td>
<td>2 March</td>
<td>6/8 March</td>
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</tbody>
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*Problem set due at end of first week of class. This problem sets reviews material from Economics 202.

There will not be any discussion sections held on January 4. The discussion sections on February 6/8 and February 27/March 1 will be devoted to reviewing the midterm examinations.

**Text Book:** David Besanko and Ronald R. Braeutigam’s *Microeconomics* (2nd edition, Wiley, 2005). ISBN: 0-471-45769-8. A used copy of the first edition is also acceptable. The ordering and the substance of the material is substantially the same in both editions. There is also a companion study guide but this is not required, though some students will find the practice problems helpful. The book will be stocked by both the Norris bookstore and at Becks. We will cover chapter 1-12 in the text book. This text book also covers material in chapters 13-17 that is discussed in Economics 310-2.
Advice on Studying: This course is not suitable for pulling all-nighters just prior to examinations. Material later in the course builds on material discussed earlier in the course. It is therefore vital that you keep up with the readings and problem sets, and ensure that you understand entirely the logic of the models and analytical techniques that are discussed. Therefore if you are confused about any material it is best that you speak to me or one of my Teaching Assistants immediately so that we can help you. As this course is quite mathematical and based on algebraic models, practice at solving problems is the best studying advice. There are problems at the end of each chapter in the textbook, and there is an accompanying Study Guide, and a Student companion Website at: http://bcs.wiley.com/he-bcs/Books?action=index&itemId=0471457698&bcsId=2164 that you can use for additional practice.

SYLLABUS

Listed below are the topics covered in the course. At the end is a timetable showing when each subject will be covered. In parentheses after the initials "BB" are the relevant chapters in the textbook.

PART 1. SCENE SETTING

Introduction (BB Chapter 1).

Revision of Demand and Supply Analysis The basics of the nature of demand and supply curves. Algebraic representation of these curves, and equilibria in competitive markets. The effects of price, income, tastes, costs and the price of other goods on equilibria. Formal definitions of demand and supply elasticities (BB Chapter 2).

PART 2. PRINCIPLES

This section of the course provides the building blocks for market analyses. In effect we "go behind" the demand and supply functions to explain their derivation. The demand side is studied before the supply side.

Individual Consumer Choice The theory of how consumers derive as much satisfaction as they can from their incomes by deciding which goods and services to consume, and in what quantities (BB Chapters 3, 4).

Individual and Market Demand By changing prices and individual income, we can use the individual choice theory model to derive individual and market demand demand curves (BB Chapter 5.1-5.4).

Theory of Production and Costs The principles developed here will give the student an understanding of the derivation of supply functions for individual firms. We start by looking at how a firm decides to combine together the various factors of production (labor, capital, land etc.) to ensure efficient production. We then discuss how cost functions can be derived from production
functions. The nature of cost functions in both the short and long run are discussed, as is empirical estimation of cost functions (BB Chapters 6, 7, appendix to chapter 7, 8.1-8.2).

PART 3. MARKET STRUCTURE

We now use the principles already learned to study how prices, output, profit and consumer well-being are determined in perfectly-competitive and monopolistic markets.

Objectives of Firms We consider why firms exist and what their objectives might be. We discuss the relevance of the usual economic assumption that firms maximize profits, and derive equilibria conditions that result in this maximization (BB Chapter 9.1-9.2).

Perfect Competition A perfectly-competitive market is one in which no firm has a large enough share of the market to be able to influence the market price. We start out by considering the individual perfectly-competitive firm and its output decision in the short run. We then derive a market supply curve and discuss the nature of equilibrium in the long run. We then show that perfect competition is the "benchmark" case which represents the most economically-efficient market structure (BB Chapters 9.3-9.5).

Applications of Perfect Competition The perfectly competitive model is then used to consider some common economic issues such as price controls, minimum prices, quotas and taxes and subsidies (BB Chapter 10).

Monopoly We now turn our attention to industries where there is only one firm. Having studied the sources of such monopoly power, we then investigate the price and output decision of the monopolist firm. The impact of monopoly on economic efficiency is considered, along with a discussion of public policy towards the regulation of monopoly (BB Chapter 11.1-11.6).

Applications of Monopoly The monopoly model is then used to consider such issues as price discrimination, advertising and a monopolist who owns two plants. We also consider the situation of the monopsonist, which is the situation where there is only one consumer of a good (BB Chapter 12.1-12.4, 12.6, 11.7).

SCHEDULE

Week 1. Introduction, revision of demand and supply, price elasticities
Week 2. Individual consumer choice
Week 3. No Lecture (Monday), Individual and market demand
Week 4. Production functions
Week 5. Efficient production, long- and short-run cost functions, Midterm examination I
Week 6. Economies of scale, Objectives of firms, equilibrium in perfect competition
Week 7. Applications of perfect competition
Week 8. Sources of monopoly power, equilibrium in monopoly model, Midterm examination II
Week 9. Social cost and regulation of monopoly, price discrimination
Week 10. Further applications of monopoly, monopsony