MICROECONOMIC THEORY AND POLICY

Course Number: 440.601                 Summer 2011

Instructor: Ahmed Saber Mahmud

E-mail: amahmud2@jhu.edu

Office Hours: Specific Time and Date will be announced later

Course Website: Sakai

Microeconomic theory pervades as the basic theoretical framework upon which the remaining disciplines of economics is built on. The present course provides the basic analytical tools related to microeconomics that is used in policy analysis. This course is intended for a graduate student who is interested in pursuing a career in public policy-making.

This comprehensive course covers theories related to consumer decision-making, the theory of the firm, partial equilibrium, general equilibrium, welfare economics, imperfect competition, game theory, and decisions under risk.

Prerequisites:
It is necessary that students taking this course be sufficiently well versed in calculus and introductory microeconomics. There may be special cases when without such prerequisites, a student may follow the materials but these are rare instances. A rigorous course in graduate microeconomics demands basic training in mathematics.

Readings:
The main text for lecture material is:


We will focus exclusively on this particular text. Although we are using the latest edition, the earlier ones will probably suffice as well. However, the page numbers and numbering of homework problems will differ.

For a less mathematical introduction to the subject, you may want to take a look at:

Microeconomics
by Michael Katz (Author), Harvey Rosen (Author)
Homework:
Problems from each unit will be assigned weekly (from the book, 10th edition). You are expected to turn in the assigned homework the following week. Homework will be graded and solutions will be discussed. These problem sets will help you to prepare yourself for the exams. Students are encouraged to form groups in solving these problems. The assignments should be submitted as a group (not exceeding 3) as well.

Assignment 1: 2.1, 2.2, 2.7, 2.11, 3.1, 3.2, 3.5, 3.10, 3.13, 4.1, 4.2, 4.5, 4.10, 4.11, 4.13

Assignment 2: 5.1, 5.2, 5.4, 5.5, 6.1, 6.10, 9.1, 9.5, 9.8, 10.3, 10.4, 10.7, 10.8

Assignment 3: 11.1, 11.3, 11.5, 11.7, 12.1, 12.3, 12.5, 12.7, 12.8

Assignment 4: 13.1, 13.2, 13.5, 13.6, 13.11, 7.4, 7.5, 7.7

Assignment 5: 8.1 (a, d), 8.3 (except d), 8.4, 14.2, 14.5, 14.6, 14.7, 15.1, 15.2, 15.4, 15.5

Exams:
There will be one prelim and one final. None of the exams will be cumulative. However, material from the previous exam will act as foundation for the latter ones. You will be graded not only based on the answers to the questions on the exam but also on how you derived them. This will allow me to give partial credits when possible.

Course Grade:
25% Homework
35% Preliminary exam
40% Final exam

Grades will be based on exams and homework.

Disabilities:
Students with any documented physical or learning disabilities in need of special accommodation should let me know in advance – so that arrangements can be made.

Unit 1: Introduction and Math Review
Readings: Chapter 1 & 2

We basically discuss how microeconomics evolved over the years to the present state. Next we move on to a brief review of math. The math review covers, calculus, optimization with one or more than one variables, the necessary and sufficient conditions of maximization, a little bit of matrix algebra and implicit function rule.

Unit 2: Utility Functions and Maximization
Readings: Chapter 3 & 4

Different shapes of utility functions are discussed. Afterwards, we move to utility maximization and the necessary and sufficient conditions of it. We also define and show
how to calculate indirect utility and expenditure functions. This lecture will exemplify how mathematical tools developed in the first lecture become useful.

**Unit 3: More on Utility**
Readings: Chapter 5 & 6

The discussion on utility functions continues. We illustrate graphically and mathematically the difference between income and substitution effects. We also define complementarity and substitutability among goods.

**Unit 4: Production and Cost Functions**
Readings: Chapter 9 & 10

Now, we focus on how goods are produced from inputs. The two concepts related to production are cost and production functions. We discuss various production functions in some details and take a look at the difference between long and short-run cost functions for a firm.

**Unit 5: Profit Maximization**
Readings: Chapter 11 & 14

We continue with the theory of the firm and now we look at how firms allocate their resources to produce goods. A firm in neoclassical model is profit maximizing. We discuss this optimization process in the context of competitive and non-competitive markets.

**Unit 6: Partial Equilibrium**
Readings: Chapter 12

At this point, we combine the two threads of our discussions – consumers and producers to see how markets really work together. In other words, we see how supply (producer’s response) and demand (the need of the consumer) respond to each other. We concentrate on one market only.

**Unit 7: General Equilibrium**
Readings: Chapter 13

In partial equilibrium models, only one market clears. Reality consists of many such markets that are interrelated. How such multitude of exchange clears is the topic of this lecture. It is called general equilibrium denoting the how all the markets are cleared simultaneously.

**Unit 8: Uncertainty and Information**
Readings: Chapter 7
Unlike the fictitious market model described above, the real world is plagued by risk and uncertainty. At this point, we discuss how a rational consumer handles risk and uncertainty. While doing so, we define a risk averse person and introduce the economics of information.

Unit 9: Strategy and Game Theory
Readings: Chapter 8

Over the years, Game Theory has evolved as a separate discipline and has introduced us to a whole new set of tools and a novel way of thinking to understand the surrounding world. In this brief introduction, we discuss Nash Equilibrium, Sequential games, and Repeated games.

Unit 10: Imperfect Competition
Readings: Chapter 14 & 15

The equilibrium conditions of imperfect market markedly differ from the previously discussed perfect competition. In these two chapters we discuss the origins of monopoly, and the reason behind price discrimination among consumers. We also address the issue of oligopoly another important variants of imperfect competition.