APPLIED MICROECONOMIC THEORY

Econ 6070-3 Fall 1996
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Office hours: Office: Econ 202
Recitation time: Recitation place:
Office hours:


Course description: Microeconomics is about what goods get produced and bought, and at what prices. The course teaches the mathematical structure of microeconomic theory. It is designed for first-year MA students. The formulation of the consumer's and the firm's problems is rigorously analysed. Price determination is considered in the context of a monopoly, an oligopoly and a competitive market structure. Game theory is introduced and the characteristics which determine industrial structure are explored. Competitive equilibrium is seen as the successful entry of many firms into a market. Welfare implications are discussed.

Problem sets: Problem sets are given out on a weekly basis, and are discussed in the recitation session. The problem sets are an integral part of the course. They are designed to help you use the material, and a significant part of the exam will be based on them.

Grading: there are two experiments, one midterm and a final exam. The grade of the student will be determined as: 10% experiments, 45% Midterm, 45% Final.

Exams: because this is a MA level class, the exams will not just repeat material covered in class. Some questions will repeat material covered in class, but some will ask you to apply the material in a different environment.

The midterm exam will be given in the evening as:
MIDTERM: Monday, 21 October, 7-9pm.

The final exam is scheduled by the university.

Course outline:
Date Topic Chapter
26 Aug INTRODUCTION 4
Positive and normative.
Deductive and inductive reasoning.
The economic problem.
Market (competitive) model.

(omit 4.6)
CONSUMER PREFERENCES

Sets.
- diminishing marginal utility
Indifference Curves.
New Welfare Economics.
"At least as good as" set is convex.
Marginal Rate of Substitution.

THE CONSUMER PROBLEM

Objective.
Feasible (budget) set.
"Marginal rate of substitution = price ratio" rule.

CONSUMER DEMAND

Income-consumption curves
- Engel curves.
- normal and inferior goods.
Price-consumption curves
- demand curves.
- (gross) substitutes and (gross) complements.
Generalized demand functions.
Homogeneity
- normalizing prices.
Elasticity
- inelastic and elastic.
Income and substitution effects.

Labor supply.
Savings.
Insurance

MARKET DEMAND

Summing individual demand curves.
Consumer surplus.

EXCHANGE

Feasible trades: Edgeworth Box.
Gains from trade
- Pareto-superior allocations.
Pareto-efficiency
- "equal marginal rate of substitution rule"
- contract curve.
- utility possibility frontier.
Competitive equilibrium
First Fundamental Theorem of Welfare Economics.
Second Fundamental Theorem of Welfare Economics.

7, 9, 11 Oct PRODUCTION
Production functions (omit 10.3)
- diminishing marginal returns.
- marginal product.
Isoquants.
Marginal rate of technical substitution.
Returns to scale.
Short-run and long-run production relationships.

14, 16, 18 Oct COSTS
Isocost curves.
Cost minimization
- "marginal rate of technical substitution = price ratio" rule
Input substitution.
Long-run: average and marginal costs.
Conditional input demands.
Short-run: average and marginal costs.
Envelope result
- long-run as envelope of short-run costs.

21 Oct MIDTERM

23, 25, 28 Oct MONOPOLY
Marginal revenue.
Profit-maximization
- "marginal revenue = marginal cost" rule.
Social loss: excess burden (deadweight loss)

30 Oct GAME THEORY AND OLIGOPOLY
1, 4, 6, 8 Nov
Extensive form.
Strategy.
Normal form.
Nash equilibrium.
Cournot Duopoly.
Perfect competition as sequence of successful entries.

11, 13, 15, 18 Nov COMPETITIVE SUPPLY
Firm supply.
Shutdown
- "price ≥ minimum average cost" rule.
Shifts in supply.
Input demand
- marginal and average revenue product.

20, 22 Nov
PARTIAL EQUILIBRIUM
Summing firm supply curves.
Partial equilibrium
- comparative statics.

25, 27 Nov
2, 4 Dec
MARKET EFFICIENCY
General competitive equilibrium.
Exchange efficiency (review)
- "equal marginal rates of substitution" rule.
Production efficiency
- "equal marginal rate of technical substitution" rule.
- production possibility frontier.
Product-mix efficiency
- "marginal rate of transformation
  = marginal rate of substitution" rule.
Representative individual (Robinson Crusoe) economy.
Fundamental Theorems of Welfare Economics (review).

6, 9, 11 Dec
WELFARE ANALYSIS:
BENEFIT AND CONSUMER SURPLUS
Indirect utility
Duality.
Compensated demand
Expenditure functions
- Hotelling's Lemma
- benefit as area under compensated demand curve.
Slutsky Equation
- estimating compensated demand.
Consumer surplus
- is consumer surplus a good measure of welfare?

If time permits
TAXATION
Individual analysis
Tax incidence
Excess burden (deadweight loss)