The goal of this course is to provide insights into the decision-making of firms. For example, a multi-product firm must decide which products to sell and how much of each. The two basic micro models (i) perfect competition and (ii) monopoly, provide a useful starting point. In the first, firms are price takers so profit maximization is achieved by equating marginal cost (MC) with price. In the second, firms are price setters and profit is maximized by equating marginal revenue (MR) with MC. But what is marginal cost in the case of multi-product firms? And should a firm with monopoly power always sell at one price rather than offer quantity discounts? What pricing strategy maximizes profit?

Beyond this, the two basic micro models fail when there are a few close competitors. Now the central strategic issue is how these competitors will respond to a firm’s strategy. And with all firms thinking strategically, what will be the equilibrium outcome? Modeling strategic interaction is known as Game Theory. If you doubt whether you know game theory, ask yourself how you would play “Rock-scissors-paper” against me. Assume that the payoff is $5 each time one player beats the other.

Students will be evaluated on the basis of their homework problems (40%), mid-term (10%) and final (50%). The mid-term will be in class on a date to be decided, tentatively on the 6th Thursday.

One objective of the class is to give students an idea of the potential of spreadsheets for problem solving. For several of the assignments you will need to use EXCEL (available in the computer lab.) If you have very little experience with Excel it will be important to team up with some of your classmates, making sure that one is more knowledgeable. I trust those who are in this position will be more than willing to help. You are encouraged to come to office hours to discuss difficulties arising from class or from homework. You can also try catching me right after class.

While I have taught this course quite often at UCLA, I make changes every year. Therefore I am likely to make quite a few mistakes in class. Please do not hesitate to ask questions. I hope I do look stupid on occasion so that you will feel more willing to
ask a question and not feel embarrassed if it doesn’t seem such a great question afterwards!

The text-book listed is “Thinking Strategically” by Dixit and Nalebuff. It is not really a text-book but should get you thinking about strategy without stopping to figure out formal game theory. The course reader contains notes on each of the topics that we shall be covering and is therefore core reading. There should be a number of copies of Gibbons “Game Theory for Applied Economists” in the book-store for those who are interested. It is certainly not required reading but is a good introduction to those wishing to pursue the topic further.

Whenever a student raises a question that I think may be helpful for all the class, I will send out an email to you as long as you have provided your email address to my.ucla. These email messages will be posted on the Discussion Board.

Topics

A. Multi-commodity production and shadow pricing

Introduction to Linear Programming
Imputed (“shadow”) prices
Applications: Optimal product mix, Transportation problem

Reading: John Riley LN1 “Optimization Methods Aug 19, 2002”

B. Multi-product pricing

Joint production
Peak-load pricing

Reading: John Riley LN2 “Joint Costs”

C. Monopoly and Price Discrimination

Simple monopoly (“Linear pricing”)
Perfectly discriminating monopoly (first degree price discrimination)
Asymmetric Information (second degree price discrimination)
Two-part tariffs
Non-linear Pricing

Reading: John Riley LN3 “Non-linear Pricing”
D. Strategic Choice

Introduction  Dixit and Nalebuff  7-55
Dominated strategies  D & N  56-70
Strategic equilibrium  D & N  70-78
Sub-game perfect equilibrium
Prisoner’s Dilemma and repeated games  D & N  90-118
Reputation and credibility  D & N  143-167
LN 4 “Strategic Decision-making”

E. Bidding

Bidding for licenses
Bidding for contracts
The winner’s curse

Reading: John Riley  LN 5 “Bidding”
         Milgrom  “Primer”
         D & N  319-325

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