Anderson Graduate School of Management
University of California, Los Angeles

Professor Sebastian Edwards
Professor Kirsten Daniel

Management 405: Managerial Economics

Course Objectives

The purpose of Managerial Economics is to apply a series of basic economics principles to the decision making process within the firm. Issues related to optimal pricing strategies, demand forecasting, optimal financing, appropriate hiring decisions, and investment decisions, among others, can be successfully tackled with managerial economics tools. Increasingly the problems faced by decision makers have an international or global dimension. This has forced analysts, consultants and academics to rapidly incorporate a global perspective to their managerial economics box of tools.

The basic objective of this course is to familiarize the students with the approach, language and techniques of managerial economics. At a more specific level, this course has three objectives:

- Develop specific tools – quantitative as well as broadly analytical – that are useful for tackling basic managerial economics problems.

- Instill a unique "point of view" on each and every one of the students. This point of view – the "economic point of view" – is extremely powerful and has proven to be a useful analytical perspective in many circumstances, including business decision making at the highest level.

- Discuss the functioning of the economy from an analytical point of view. Throughout the class an effort will be made to use as many examples as possible related to the international economy.

Grading Policy

- There will be two exams. The exams are open book.
- Weekly (group) homework assignments (problems).
- Some additional assignments.

The final grade will be determined in the following way:

- Midterm 30% (Wednesday, November 6)
- Final 50%. (Tuesday, December 12)
- Homework and assignments 20%

If you are unable to take the midterm, the final exam will count for 80% of the grade.

I will not "cold call" on you, but I expect everyone to participate actively in class discussions. Class participation will be critical in determining the fate of marginal grades cases.

Homework

There will be weekly homework assignments. Although these are group assignments, I urge you to work on the problems on your own. This will be helpful for the exams.

In addition to homework, there will be some occasional (assignments) assignments.

Office Hours

Professor Edwards' office is located in C-508; his number is 206-6797. His E mail address is sedwards@anderson.ucla.edu.

Professor Edwards' administrative assistant is Shaum Acharya and his phone number is 825-2507.

Professor Daniel's office is in C-5-19. Her phone number is 825-7246. Her E-mail is: kirsten.daniel@anderson.ucla.edu.

The TA is Christine Richmond. She can be reached at 825-8207, or through her E mail address: christine.richmond.2010@anderson.ucla.edu.

T.A. Office hours: TBA.

Readings

There are three books. The main text is ***Managerial Economics, 5th Edition*** by Samuelson and Marks **(S&M)** (Wiley 2006).

Throughout the quarter you may get some additional readings. Most of these will be posted on the course's web site.

You should also read the ***Financial Times***. We will use many real world examples in our class discussions.

What to Read and How to Read

The purpose of the text is to complement the material covered in class. You should read the corresponding chapter carefully after each session. You may also want to read the assigned chapter before each lecture, but you don't have to do it.

Organization of the Course and Syllabus

The course is organized in several "modules." Each module covers a specific set of concepts and tools. Modules do not necessarily correspond to specific sessions. Covering some modules may take more than one session, covering other modules may only take part of a session. The time devoted to each module is not pre-determined; it depends on how the class proceeds, on how many questions students have and how many current applications we discuss.

WEEK 1

MODULE 1: Basic economic principles, the decision making process, and optimization

A. *Concepts*
The "economic point of view"
Actions, costs and benefits
The four steps of the decision making process
Key managerial economics example: maximizing value of the firm
Cash flow
Net present value
Discount factor
Other examples

A. *Readings*
S&M, Ch. 1

MODULE 2: The basic principle in managerial economics: "marginal revenue" equal "marginal cost"

A. Concepts
Total revenues
Prices
Quantity sold
Optimality and the MR=MC principle
Basic calculus

B. *Readings*
S&M, Ch. 2

MODULE 3: Basic demand analysis

A. *Concepts*
Demand curve
Trade-off between quantity sold and price charged
The demand curve as an ordering of willingness to pay
Consumer surplus
Slopes matters
Price segmentation and consumer surplus

B. *Readings*
S&M, Ch. 2

WEEK 2

MODULE 4: Demand analysis and the decision of how many units to produce and what price to charge

A. Concepts
Mathematical representation of the demand curve
Mathematical representation of the cost function
Fixed costs
Marginal (or incremental) revenue
Marginal (or incremental) cost
MC=MR
Total profits
Break even point
Six-steps optimization method

B. *Readings*
S&M, Ch. 2 & 3

MODULE 5: Graphical representation of optimal pricing process

A. Concepts
Demand curve and marginal revenue curve when the demand function is linear
MR=MC
Quantity projection to find optimal price
Total revenue
Variable cost
"Contribution"

B. *Readings*
S&M, Ch. 2

WEEK 3

MODULE 6: Advanced demand analysis

A. Concepts
Income effect
Complements
Substitutes
(Pricing example when there is a substitute good)

B. Readings
S&M, Ch. 3

MODULE 7: Elasticities

A. Concepts
Elasticity
Income elasticity
Own price elasticity
Cross elasticity
Normal goods
Inferior goods
Superior or luxury goods
Determinants of price elasticity
Elasticities and forecasting

B. Readings
S&M, Ch. 3 (up to page 100)

WEEK 4

MODULE 8: Elasticities, optimal pricing, mark-up and market segmentation

A. Concepts
The relation between elasticities and marginal revenue
- Graphical analysis
- Mathematical analysis

Mark-up equation
Basic market segmentation
Alternative forms of market segmentation (First, second and third degree0

B. Readings
S&M, Ch. 3 (from page 101 onward)

MODULE 9: The fundamentals of demand theory

A. Concepts
Alternative forms of demand curves
- Linear
- Cobb-Douglas
- Semi logarithmic

Utility function
Indifference curves
Budget constraint
Feasibility set
Marginal rate of substitution
Optimal consumption
Relative prices

Derivation of demand curve
Income-work trade-off
Overtime pay and optimization

B. Readings
S&M, Appendix to Ch. 3

WEEK 5

MODULE 10: The estimation of demand curves

A. Concepts
Regression Analysis
Estimated coefficients
R square
Goodness of fit
Standard deviation
t-statistic
Simultaneous equations bias

B. Readings
S&M, Ch. 4 (and Ch. 5)

MODULE 11: Basic production theory

A. Concepts
Production function
Value added
Factors of production
Different runs (short, medium, long).

B. Readings
S&M, Ch. 6 (up to page 228)

MODULE 12: Law of diminishing returns

A. Concepts
Marginal productivity
Average productivity
Diminishing returns
Returns to scale

- Constant returns to scale
- Increasing returns to scale

- Decreasing returns to scale

B. Readings
S&M, Ch. 6 (up to page 228)

WEEK 6

MODULE 13: Optimal hiring decisions

A. Concepts
Optimization with respect to factors' use
Value of marginal product
w = p MPL
r = p MPK
Optimal factor intensity

B. Readings
S&M, Ch. 6 (up to page 228)

WEEK 7

MODULE 14: The fundamentals of production theory

A. Concepts
Isoquants
Isocosts
Marginal rate of substitution
Optimal factor proportions

B. Readings
S&M, Ch. 6 (pages 229-234)

MODULE 15: Specific production functions and optimal resource use

A. Concepts
Linear
Fixed proportions
Cobb-Douglas
(Example on optimality and factor proportion)

B. Readings
S&M, Ch. 6 (after page 234)

WEEK 8

MODULE 16: Introduction to costs theory

A. Concepts

Different type of costs

- Opportunity costs
- Sunk costs
- Fixed vs variable costs
- Marginal costs
- Average costs
- Short term vs long term

The relation between marginal costs and marginal productivity
Costs and returns to scale
Economies of scale
Economies of scope

B. Readings

S&M, Ch. 7 (to page 282)

MODULE 17: The allocation of costs and decision making

A. Concepts

Variable Costs and fixed costs; A graphical analysis
Optimal decision making in graphical terms
Cost allocation and contribution to fixed costs

B. Readings

S&M, Ch. 7 (from page 282)

WEEK 9

MODULE 18: Production Functions and cost functions

A. Concepts

The relation between production and cost function
Deriving cost function from costs functions

B. Readings

S&M, Special Appendix to Ch. 7

MODULE 19: Transaction costs, the theory of the firm and management strategy

A. Concepts

Transaction costs
The scope of the firm

B. Readings
Paul Milgrom and John Roberts, ***Economics Organization and Management***, Prentice Hall, Ch. 2.

MODULE 20: Decisions under uncertainty

A. Concepts
Expected utility
Risk neutrality
Risk aversion risk lovers
Decision trees

B. Readings
S&M, Ch. 8

WEEK 10

MODULE 21: Perfect and imperfect competition

A. Concepts
Perfectly competitive markets
Price takers
Monopoly
Natural monopoly
Oligopoly
Monopolistic competition

B. Readings
S&M, Ch. (10) & 11

MODULE 22: Oligopoly and strategic behavior

A. Concepts
Reaction functions
Cournot-Nash equilibrium
Collusion
Instability of collusive equilibrium

B. Readings
S&M, Ch. (12)