

CALIFORNIA STATE POLYTECHNIC
UNIVERSITY, POMONA

Course Title: Managerial Economics and
Operations Analysis
EC 560

Date of Preparation: May 2009

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COURSE OUTLINE

I. Catalog Description

EC 560 Managerial Economics and Operations Analysis (4)

Advanced topics and new developments in managerial economics and operations research. 4 lecture/discussions. Prerequisites: EC 401, MAT 125, EC 322/EC 322A or equivalent. Unconditional standing required.

II. Required Background or Experience

EC 401, MAT 125, EC 322/EC 322A or equivalent. Unconditional standing required.

III. Expected Outcomes

Students in EC 560 will:

- a) apply advanced economic theory to models of organizational decision making,
- b) build mathematical economic models of industry operations,
- c) use mathematical logic to solve problems of industrial decision-making, and
- d) identify and formulate various algorithms of programming for industrial management.

IV. Text and Readings

Texts:

Besanko, D., D. Dranove and M. Shamley Economics of Strategy (New York, NY: John Wiley and Sons, 2004).

Readings:

Baumol, W. Economic Theory and Operations Analysis, 7th Ed. (Englewood Cliffs, NJ: Prentice Hall, 1998).

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Baya, M. R. Managerial Economics and Business Strategy (New York, NY: McGraw-Hill, Inc., 2007).

Pfaffenberger, P. and R. Walker Mathematical Programming for Economics and Business (Des Moines, IA: Iowa State University Press, 1989).

Taha, H. Operations Research: An Introduction, 8th Ed. (Englewood Cliff, NJ: Prentice Hall, 2006).

Wagner, S. Operations Research (Englewood Cliffs, NJ: Prentice Hall, 1992).

References:

American Economic Review
Applied Economics
Journal of the American Statistical Associations
Journal of Industrial Economics
Management Science
Managerial Decision Economics

V. Minimum Student Materials

Textbooks, notebooks and access to assigned readings.

VI. Minimum College Facilities

Classroom suitable for lecture/discussions and student presentations equipped with audio-video and computer access. Library collection of current journals in the field. Computer lab with individual student workstations and SAS software.

VII. Course Outline

- A. Organizational Goals, Objectives and Implications
- B. Quantification of Fundamental Economic Concepts and Principles for Organizational Decision-Making
- C. Mathematical Models for Organizational Decision-Making
 - 1. Linear Programming Models

2. Non-Linear Programming Models
 3. Algorithms for Linear and Non-Linear Programming Models
 4. Other Models of Organizational Decision-Making
- D. Strategies for Organizational Decision-Making
- E. Current Topics in Organizational Decision-Making

VIII. Instructional Methods

Lecture/discussions with active student's participation. Instructor-led review of assigned problems and computer exercises. Student problem-solving sessions in a computer lab. Student research paper on an organizational decision-making topic of their choice.

IX. Evaluation of Outcomes

There are four forms of evaluation. Students will:

- a) participate in class discussions,
- b) complete computer exercises and problem-sets,
- c) present the results of a research paper on an organizational decision-making topic, and
- d) write midterm and final examinations.