I. GENERAL INFORMATION

II. COURSE INFORMATION

COURSE OBJECTIVES

The primary objective of this course is to provide an overview of the decision making techniques which are instructed in the course Operations Research. The students who take this course are expected to gain some understanding about where each one of these techniques stands in the realm of decision making. An additional objective is to teach the students some additional techniques not covered due to time limit in Operations Research and thus to increase the number of the decision making tools they are capable of using.

COURSE DESCRIPTION

The decision making tools to be instructed are presented in the course outline. Particular emphasis will be placed on some of them. Deterministic Dynamic Programming and Goal Programming were covered in Operations Research II (İşl.212). Considerable time will be devoted to more advanced topics such as Probabilistic Dynamic Programming and Multiobjective Linear Programming. Goal Programming will be revisited as a special case of Multiobjective Linear Programming. Decision Trees, Analytical Hierarchy Method, Data Envelopment Analysis, Game Theory and Markov Processes are the techniques that will be added to those covered in the previous courses.

COURSE METHODOLOGY

The class will be conducted primarily in lecture format. Regardless, students will be encouraged to raise question and to make comments whenever they wish. Participation of the students in the class discussions is expected to play a predominant role. Bulk of the lessons will be conducted in the computer laboratory. The package programs that will be employed are LINDO, LINGO and QSB.

COURSE REQUIREMENTS

This is a course with no prerequisite. As it is, in a sense, a continuation of the courses OR I and II, this course is not recommendable, if the previous ones have not aroused your interest. Experience on the package programs to be employed is not needed. It will be quite easy to learn how to use them. Attendance is mandatory at every class. A midterm and a final exam will be made. Homeworks will be assigned throughout the course. Participation in the discussions during the class will be valued in favour of the student.

GRADING INFORMATION & CRITERIA

30% of the midterm exam and 70% of the final exam constitute the raw grade of the course. Raw grade is then converted into letter grade through the curve system. The outcomes are e-mailed to the students.

The students who are subject to the previous grading system are required to receive a grade of 40% of the midterm exam and 60% of the final exam constitute the raw grade of the course. Raw grade is then converted into letter grade through the curve system. The outcomes are e-mailed to the students.
REQUIRED & PROPOSED MATERIALS

Major Texts:

2) Cemal Özgüven, Doğrusal Programlama ve Uzantıları (Uygulamalar) - Mart/2002. Applications the mathematical models, namely linear, integer and goal programming models, to a variety of decision problems. Available in the Book Store.

Supplementary Reading:


EXTRA INFORMATION

I will be pleased to answer your questions about any subject pertaining to this course. No office hours. You can find me anywhere and anytime in the school building.

COURSE OUTLINE

The topics and number of weeks that will be devoted to each are as follows:

An Overview of Decision Problems - One Week
Decision Analysis - Two Weeks
Probabilistic Dynamic Programming - One Week
Multiobjective Linear Programming/Goal Programming - Three Weeks
Analytical Hierarchy Method - One Week
Data Envelopment Analysis - One Week
Game Theory - One Week
Markov Processes - Two Weeks