I. GENERAL INFORMATION

II. COURSE INFORMATION

COURSE OBJECTIVES
The primary objective of this course is to cover in a more sophisticated manner some of the decision making techniques which were instructed in the undergraduate courses Operations Research I and II. An additional objective is to teach the students some additional techniques not covered in those undergraduate courses and thus to broaden the range 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 (BUS 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. 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. A large number of model building applications will be made with to view to help the students gain some experience about how the mathematical models are employed for decision making purposes.

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
A good understanding of the topics covered in operations research courses, particularly linear programming, is assumed. Experience on the package programs 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
The students are required to receive a grade of at least 50 points from the final exam. The course grade which must be at least 65 points is the weighted average the midterm exam and the final exam. The weighs are 40% and 60% respectively.

REQUIRED & PROPOSED MATERIALS

Major Texts:


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

Duality and Sensitivity Analysis in Linear Programming - One Week
Integer Linear Programming- One Week
Multiobjective Linear Programming/Goal Programming/Analytical Hierarchy Method- Three Weeks
Model Building Applications - Four Weeks
Data Envelopment Analysis - One Week
Deterministic and Probabilistic Dynamic Programming-Two Weeks
Game Theory - One Week
Markov Processes- One Weeks