Content

Course Code	Course Name	Semester	Theory	Practice	Lab	Credit	ECTS
PM545	Quantitative Methods in Marketing	1	3	0	0	3	7

Prerequisites	
Admission Requirements	

Language of Instruction	Turkish
Course Type	Compulsory
Course Level	Masters Degree
Objective	Course objective is to give to the student an in-depth presentation of the tools and techniques of management science as applied to real-word problems. The subject matter includes linear programming, sensitivity analysis, distribution models, integer and mixed integer linear programming models.
Content	1) Introduction to operational research and basic concepts. 2)Linear programming, assumptions and formulation of the model. 3) Graphical solution of a linear programming model. 4) Solution of a linear programming model.- Solution of a standard maximization problem using Simplex method. 5) Solution of a linear programming model.- Solution of a standard minimization problem using Simplex method. 6) Solution of a linear programming model with mixed constraints using Simplex method and special cases of a linear programming model by use of computer. 7) Sensitivity analysis. 8) Applications of a linear programming to the management problems. 9) The dual problem. 10) Transportation problem and solving technics – Nord-West corner rule and stepping step method. 11) Transportation problem and solving technics – Modified distribution method and Vogel approximation method (VAM). 12) Transshipment, assignment and solving technics. 13) Travelling salesman problem.
References	Dantzig, George Bernard. Linear programming and extensions. Princeton : Princeton University Press. 1998 Darst, Richard B. Introduction to Linear Programming: Applications and extentions. New York : M. Dekker, 1991 Thie, Paul R. An introduction to linear programming and game theory. New York : Wiley, 1988. Timor, Mehpare. Yöneylem Araştırması ve İşletmecilik Uygulamaları, İstanbul : İ.Ü. Basımevi, 2001. Top, Aykut. Üretim Yönetimi, Ankara : Nobel Basımevi, 2006

Theory Topics

Week	Weekly Contents
1	Introduction to operational research and basic concepts. Linear programming, assumptions and formulation of the model. Graphic solution of a linear programming model.
2	Solution of a linear programming model.- Solution of a standard maximization problem using Simplex method.
3	Solution of a linear programming model.- Solution of a standard minimization problem using Simplex method.
4	Solution of a linear programming model with mixed constraints using Simplex method and special cases.
5	Solution of a linear programming model by use of a computer.
6	Sensitivity analysis.

Week	Weekly Contents
7	Mid-term exam 1.
8	Applications of a linear programming to the management problems.
9	The dual problem.
10	Transportation problem and solving technics – Nord-West corner rule and stepping step method.
11	Transportation problem and solving technics – Modified distribution method and Vogel approximation method (VAM).
12	Mid-term exam 1.
13	Transshipment, assignment and solving technics.
14	Travelling salesman problem.