

QUANTITATIVE METHODS FOR DECISION MAKING IN BUSINESSES

1	Course Title:	QUANTITATIVE METHODS FOR DECISION MAKING IN BUSINESSES	
2	Course Code:	IFY5307	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. GÜL EMEL	
15	Course Lecturers:	Doç.Dr.Gül GÖKAY EMEL	
16	Contact information of the Course Coordinator:	Doç.Dr.Gül GÖKAY EMEL ggokay@uludag.edu.tr 0 (224) 294 10 55	
17	Website:		
18	Objective of the Course:	To teach basics of linear programming models and solution techniques, how to apply the models to different business problems, network models and their application areas.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To know how to design linear programming models
		2	To understand the solution methods of linear programming
		3	To create and solve Linear Programming Models for managerial problems as production planning, logistics, human resources and etc
		4	To create and solve linear Programming Models for finance and investment problems
		5	To interpret results of the models and do Sensitivity Analysis
		6	To comprehend fundamentals of Network Analysis
		7	To apply Network Models to financial planning problems, to interpret results of the models and making risk analysis
		8	
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Basic principles and the structure of Linear Programming Models		

2	To create profit and cost optimization models for production planning and business management problems	
3	To create Linear Programming Models for financial and investment planning problems	
4	Graphic Method and Simplex Algorithm for Linear Programming	
5	To solve and make economic interpretation of the results of business and finance problems	
6	To comprehend Sensitivity Analysis and Parametric Programming and to apply these approaches to finance problems	
7	To solve Linear Programming Models with Excel Solver, to make economic interpretations of the results	
8	To solve and interpret the results of business and finance problems in the context of economics and to make a Sensitivity Analysis	
9	Time Value of money and Annuity Method	
10	Risk and Sensitivity Analysis in investment project evaluations	
11	Fundamentals of Network Analysis	
12	Critical Path Method and its applications	
13	Project Evaluation and Review Technique and its applications	
14	Optimization in resource levelling	
22	Textbooks, References and/or Other Materials:	Wayne Winston, Operations Research Aydın Ulucan, Yöneylem Araştırması H.Tütek/Ş.Gümüsoğlu, Sayısal Yöntemler (Yönetmelik Yaklaşım)
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBER
Midterm Exam		0
Quiz		0
Home work-project		1
Final Exam		1
Total		2
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		
24	ECTS / WORK LOAD TABLE	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	3.00	42.00
Homeworks	1	60.00	60.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	35.00	35.00
Total Work Load			179.00
Total work load/ 30 hr			5.97
ECTS Credit of the Course			6.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	3	5	1	4	2	2	5	5	5	5	5	0	0	0	0	0
ÖK2	3	5	1	5	2	2	4	4	5	5	5	0	0	0	0	0
ÖK3	1	5	1	5	1	1	1	5	5	5	5	0	0	0	0	0
ÖK4	2	5	1	5	2	5	5	5	5	5	5	0	0	0	0	0
ÖK5	5	5	1	5	5	5	5	2	4	5	5	0	0	0	0	0
ÖK6	3	5	0	5	2	2	5	5	5	5	5	0	0	0	0	0
ÖK7	5	5	1	5	1	1	5	5	5	5	5	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low		2 low		3 Medium		4 High		5 Very High							