M.A. PROGRAM IN BUSINESS MANAGEMENT (WITH THESIS)
COURSE SYLLABUS FORM

Course Details					
Code			**Academic Year**		**Semester**
BM072			1		Elective
Title			**T**	**A**	**L**	**ECTS**

Title		T	A	L	ECTS
Operations Research		3	0	0	6

Language	English				
Level	**Undergraduate**		**Graduate**	X	**Postgraduate**	
Department / Program	Business Management				
Forms of Teaching and Learning	Face to face				
Course Type	**Compulsory**		**Elective**		X
Objectives	The aim of this course is to introduce the students to the basic techniques used in Operations Research.				
Content	Introduction to decision theory and decision types, linear programming, transport problem, assignment problem, integer programming, CPM / PERT, game theory, Markov chains, simulation, queuing theory				
Prerequisites	-				
Coordinator	Asst. Prof. Dr. Mehmet Hakan ÖZDEMİR				
Lecturer(s)	-				
Assistant(s)	-				
Work Placement	-				

Recommended or Required Reading	
Books / Lecture Notes	- Winston, W. L., Operations Research Applications and Algorithms Fourth Edition, 2003, Duxbury Press - Bazaraa, M. S., Jarvis, J. J., Sherali, H. D., Linear Programming and Network Flows Fourth Edition, 2010, Wiley - Taha, H. A., Operations Research An Introduction Fourth Edition, 1989, Maxwell Macmillan International Editions
Other Sources	-

Additional Course Material	
Documents	-
Assignments	-
Exams	-

Course Composition	
Mathematics und Basic Sciences	50%
Engineering	%
Engineering Design	%

M.A. PROGRAM IN BUSINESS MANAGEMENT (WITH THESIS)
COURSE SYLLABUS FORM

Social Sciences		20%
Educational Sciences		%
Natural Sciences		%
Health Sciences		%
Expert Knowledge		30%

Assessment

Activity	Count	Percentage (%)
Midterm Exam	1	40
Quiz		
Assignments		
Attendance		
Recitations		
Projects		
Final Exam	1	60
Total		**100**

ECTS Points and Work Load

Activity	Count	Duration	Work Load (Hours)
Lectures	14	3	42
Self-Study	14	3	42
Assignments			
Presentation / Seminar Preparation			
Midterm Exam	1	48	48
Recitations			
Laboratory			
Projects			
Final Exam	1	48	48
Total Work Load			**180**
ECTS Points (Total Work Load / Hour)			**6**

Learning Outcomes

1	Students have basic knowledge about decision theory.
2	Students can solve linear programming problems, make sensitivity analysis, solve dual problem and interpret it.
3	Students can solve transport and assignment problems.
4	Students can solve integer programming problems.
5	Students have basic knowledge about CPM / PERT.

M.A. PROGRAM IN BUSINESS MANAGEMENT (WITH THESIS)
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6	Students have basic knowledge about game theory.
7	Students can work with Markov chains.
8	Students have basic knowledge about simulation.
9	Students can create queue models.

Weekly Content

1	Introduction to decision theory and decision types
2	Introduction to linear programming and graphic solution
3	Linear programming - Simplex method
4	Linear programming - Duality
5	Linear programming - Sensitivity analysis
6	Transport problem
7	Transport problem
8	Assignment problem
9	Mid-term exam
10	Integer programming
11	CPM / PERT
12	Game theory
13	Markov chains
14	Simulation
15	Queuing theory

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13
1	4	5	5	5	5	4	5	4	3	4	5	5	5
2	4	5	5	5	5	4	5	4	3	4	5	5	5
3	4	5	5	5	5	4	5	4	3	4	5	5	5
4	4	5	5	5	5	4	5	4	3	4	5	5	5
5	4	5	5	5	5	4	5	4	3	4	5	5	5
6	4	5	5	5	5	4	5	4	3	4	5	5	5
7	4	5	5	5	5	4	5	4	3	4	5	5	5
8	4	5	5	5	5	4	5	4	3	4	5	5	5
9	4	5	5	5	5	4	5	4	3	4	5	5	5

Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High

Compiled by:	Asst. Prof. Dr. Mehmet Hakan ÖZDEMİR (Head of Sub-Department Quantitative Methods)
Date of Compilation:	04.06.2020