AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
MANAGEMENT INFORMATION SYSTEMS
MANAGEMENT INFORMATION SYSTEMS
MANAGEMENT INFORMATION SYSTEMS MASTER
COURSE INFORMATION FORM

Course Title	Mathematical Statistics								
Course Code	MIS501		Couse Level		Second Cycle (Master's Degree)				
ECTS Credit	7	Workload	181 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Expected value calculations for continuous and discrete random variables, their characteristics, moment generating functions, transformations among random variables will be deeply discussed in the course.								
Course Content	Definition and properties of random variables, discrete and continuous random variables, probability and density functions, distribution functions, expected value and variance, their properties, approximations of the expected value and variance, moment çıkartan functions and features of the distribution functions of random variables, distribution function technique , change of variables technique, Chebyshev, Markov and Cauchy-Schwarz inequality.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Discussion								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Saraçoğlu B., "Matematiksel İstatistik", Gazi Büro Yayınları

Week	Weekly Detailed Course Contents	
1	Theoretical	Random variables and related calculations
2	Theoretical	Expected value and variance, their properties
3	Theoretical	Moment generating function and its properties
4	Theoretical	Two dimensional random variables
5	Theoretical	Conditional and marginal distributions
6	Theoretical	Product moments
7	Theoretical	Approximations to expected value and variance
8	Theoretical	Statistical inequalities
9	Intermediate Exam	Midterm Exam
10	Intermediate Exam	Midterm Exam
11	Theoretical	Conditional expectations and applications
12	Theoretical	Variable switching technique
13	Theoretical	Distribution function technique
14	Theoretical	Sample solutions
15	Final Exam	Final Exam
16	Final Exam	Final Exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	16	0	3	48
Assignment	1	0	20	20
Individual Work	26	0	3	78
Quiz	2	0	5	10
Midterm Examination	1	0	10	10

Final Examination	1	0	15	15
			Total Workload (Hours)	181
			[Total Workload (Hours) / 25*] = **ECTS**	7
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	They exemplifying charachteristics of moments
2	They exemplifying probabilty calculation for given distribution.
3	They remember some relations among different mathematical approaches and statistics.
4	They remember about mathematical concepts and elementary methods.
5	They remember about concepts related random variables.

Programme Outcomes *(Management Information Systems Master)*	
1	Be aware of the different types of ınformation technologies and systems using in business, have enough knowledge to design a suitable system
2	Analyse the needs for an information systems and have control over the processes at the analysis, design and implementation stages of the database that belongs to the system
3	Convey information about current trends and their own studies both verbally and visually ways.
4	Be able to follow current developments in modern business techniques and technologies, especially information technologies
5	Understand the interaction between his departmant and other relational departmants, if necessary make a team, take responsibility and do the works with team.
6	Know the information technologies and systems using in different types of business, if necessary take the system responsibility.
7	Be aware of the social transformation especially in their own field and social, legal and moral responsbilities belongs to other work field.
8	Develop their knowledge to the level of expertise which they learn them in license level.
9	Carry out a work which requires an expertness in their field.
10	Construct and perform an academic work.

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5
P1	5	3	4	3	3
P2	3	3	3	3	4
P3	4	4	4	3	4
P4	4	3	4	4	4
P5	5	3	4	3	3
P6	3	3	3	3	3
P7	2	4	4	3	3
P8	3	5	3	4	4
P9	5	3	4	4	4
P10	3	3	3	4	3