AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Mathematical Statistics I					
Course Code		MTK519		Couse Level	Second Cycle (Master's Degree)		
ECTS Credit	7	Workload	175 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		This course introduces fundamental probability and mathematical statistical theory					
Course Content		Permutation, Combination, Probability, Discrete and Continuous distribution functions, Expected value ,Arithmetic mean, Variance Moment generation function, Characteristic function, Maping of variable, Estimations Theory.					
Work Placement		N/A					
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Discussion, Individual Study, Problem Solving				
Name of Lecturer(s)							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	30
Final Examination	1	50
Assignment	1	20

Recommended or Required Reading

1	İnal C. Olasılıksal ve Matematiksel İstatistik (Probabilistic and Mathematical Statistics), Hacettepe Üniv.Fen Fak yayınları No:16, 1982
2	Kendall,M, Stuart,A.,Ord J.K.-The Advanced theory of Statistics. Charles griffin com. London 1983.
3	Alexander, W.H. –Elements of Mathematical Statistics John Wiley and Sons, NewYork,1961.
4	Mood,A.M.,Graybill,F.A. Probabilitiy and Statistical Applications McGraw-Hill Book Com. NewYork,1963.

Week	Weekly Detailed Course Contents	
1	Theoretical	Permutation, Combination
2	Theoretical	Probability
3	Theoretical	Discrete distribution functions
4	Theoretical	Continuous distribution function
5	Theoretical	Expected value
6	Theoretical	Arithmetic mean, Variance
7	Theoretical	Moment generation function
8	Theoretical	Characteristic function
9	Intermediate Exam	MIDTERM EXAM
10	Theoretical	Maping of variable
11	Theoretical	Estimations Theory
12	Theoretical	Point Estimation
13	Theoretical	Point Estimation Exercises
14	Theoretical	Interval Estimation
15	Theoretical	Interval Estimation Exercises
16	Final Exam	FINAL EXAM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Assignment	1	10	2	12
Midterm Examination	1	32	2	34

Final Examination	1	43	2	45
		Total Workload (Hours)		175
		[Total Workload (Hours) / 25*] = **ECTS**		7

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to solve the Permutation, Combination, Probability problems
2	To be able to figure out Discrete and Continuous distribution functions
3	To be able to figure out Expected value ,Arithmetic mean, Variance.
4	Variance Moment generation function, Characteristic function
5	To be able to gain the skill of interpreting some interrelations among these concepts

Programme Outcomes *(Mathematics Master)*

1	To be able to have an adequate theoretical and practical domain knowledge.
2	To be able to comprehend the interdisciplinary interaction associated with Mathematics.
3	To be able to use theoretical and practical domain knowledge gained in the field of Mathematics.
4	To be able to interpret knowledge from different disciplines integrating knowledge in the field of mathematics and produce new information.
5	To be able to define, analyse, model and to solve the problems by scientific methods in Mathematics.
6	To be able to conduct a math related specialistic study independently.
7	To be able to develop new strategic approaches to solve problems occurred in unforeseen and complex math-related applications by taking responsibility.
8	To be able to lead in situations that require solving problems related to the mathematics.
9	To be able to criticize his/her knowledge and skills acquired in the field mathematics.
10	To be able to transfer his/her ideas and suggestions for solutions to problems by supporting quantitative or qualitative data verbally and in writing.
11	To be able to communicate both orally and written in a foreign language.
12	To be able to use computer hardware and information technologies with software required by Mathematics.
13	To be able to contribute to the solution of the social, scientific, cultural and ethical problems related to the Mathematics, and being able to support the development of social, scientific, cultural and ethical values.
14	To be able to develop mathematics-related strategies, policies and operational plans, and to evaluate the results obtained within the framework of quality processes.
15	To be able to use his/her knowledge in the field of mathematics and practical problem-solving skills in interdisciplinary studies.

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	3	4	4	4	4
P2	3	4	4		
P3	3	4	4	4	4
P4	3	4	4		4
P5		4	4		
P7		4	4		4
P12	3			5	
P15	4	4	4	3	