AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Mathematical Statistics								
Course Code	BİS522		Couse Level	Second Cycle (Master's Degree)					
ECTS Credit	4	Workload	102 *(Hours)*	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	This course give the information about random variable, expected value, probability, pdf, etc. in mathematical statistics theories								
Course Content	Probability, random variable, moment generating function, discrete and continuous distributions, relations between distributions, sufficient statistics, expected value.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation)								
Name of Lecturer(s)									

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

Recommended or Required Reading	
1	Hogg, RV., Craif, AT. (1978). Introduction to Mathematical Statistics 4th Ed. Macmillan Publishind, USA.
2	Aytaç, M. (1999). Matematiksel İstatistik. Ezgi yayınları, Bursa.
3	Erdem, İ. (2012). Matematiksel İstatistik-Olasılık-Beklenen Değer-Parametre Tahmini, 1. B., Seçkin y., Ankara.
4	Hogg, R. V., McKean, J., & Craig, A. T. (2005). Introduction to mathematical statistics. Pearson Education.

Week	Weekly Detailed Course Contents	
1	Theoretical	General information
2	Theoretical	Probability theory
3	Theoretical	Probability theory
4	Theoretical	Random variables
5	Theoretical	Expected value
6	Theoretical	Discrete distributions
7	Theoretical	Discrete distributions
8	Intermediate Exam	Continuous distributions
9	Theoretical	Midterm exam
10	Theoretical	Continuous distributions
11	Theoretical	Properties of expected value processing
12	Theoretical	Moment and moment generating function
13	Theoretical	Moments according to the origin
14	Theoretical	Moments according to the arithmetic mean
15	Theoretical	Literature review and discussion
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	1	10	0	10
Quiz	14	2	1	42
Midterm Examination	1	10	1	11

Final Examination	1	10	1	11
			Total Workload (Hours)	102
			[Total Workload (Hours) / 25*] = **ECTS**	4
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	To learn the concepts of probability to understand probability theory
2	To learn probability density functions and to make probability calculations
3	To learn random variable, random variables and their distribution
4	Expected value, characteristic function and calculation of the moments of distribution with the help of this function
5	To be able to comprehend and use the theory of mathematical statistics in practice.

Programme Outcomes *(Biostatistics Master)*	
1	To be able to understand the interdisciplinary interaction releated with biostatistics.
2	to be able to use Theoretical and practical knowledge at the level of expertise.
3	To be able to nterpret the information by integrating information from different disciplines and create new information
4	To be able to nalyze the problems encountered by using research methods
5	to be able to conduct a study as an independent specialist
6	To be able to formulate solutions for complex unpredictable problems encountered by developing new approaches and taking responsibility.
7	To be able to resolve problems in environments that require leadership.
8	To be able to evaluate and direct knowledge and skills with a critical approach at the level of expertise.
9	To be able to to give statistical advise at the begining stages of preparing health related projects
10	To be able to get the knowledge and the ability of using statistical packages

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

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