STATISTICS

1	Course Title:	STATISTICS	
2	Course Code:	İMÖ3005	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	3	
6	Semester:	5	
7	ECTS Credits Allocated:	2.00	
8	Theoretical (hour/week):	2.00	
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:	Prof. Dr. DİLEK SEZGİN MEMNUN	
15	Course Lecturers:	Prof. Dr. Dilek SEZGİN MEMNUN	
16	Contact information of the Course Coordinator:	Prof.Dr. Dilek SEZGİN MEMNUN Adres: Bursa Uludağ Üniversitesi Eğitim Fakültesi, Matematik ve Fen Bilimleri Eğitimi Bölümü, Matematik Eğitimi Anabilim Dalı, 16059 Görükle / Bursa E-Mail:dsmemnun@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	Sampling, organization and analysis of data; sampling distribution and estimation; confidence interval concept; interval estimation for difference of two population means, interval estimation for ratio of two population variances, binomial parameter, interval estimation for p; learning of hypothesis testing, correlation and regression issues.	
19	Contribution of the Course to Professional Development:	To learn the basic concepts of statistics, to decide on the appropriate parametric and non-parametric statistical analyzes required for the study and to use them in the study.	
20	Learning Outcomes:		
		1	To learn the basic concepts of statistics, to know the importance of statistics in education and in daily life
		2	To know the concept of sampling, organizing and analyzing data
		3	To know sampling distributions and explaining the concept of confidence interval
		4	To learn hypothesis tests and usage areas
		5	To study on examples that require the application of hypothesis tests
		6	To be able to apply correlation and regression analysis
		7	
		8	
		9	
		10	
21	Course Content:		
	Course Content:		
Week	Theoretical		Practice

1	Statistics Importance of statistics Statistics and research Basic concepts of statistics Universe (Population) -Sample Data-Variable Quantitative-qualitative variables Continuous-discontinuous variables Dependent-independent variables	
2	Measuring and scales Classification scales Sorting scales Proportional scales Organizing and analyzing data Classifying statistical data Frequency distributions Displaying frequency distributions with a table	
3	History of statistics Arrangement and analysis of data Classification of statistical data Frequency distributions Showing frequency distributions with a table Grouping of data Graphic representation of data Line graphs Bar graphs Frequency polygon Total frequency-Total percentage graph Circle graph	
4	Description of frequency distributions Central Tendency measures-Arithmetic	
5	Variability Measures Sample Applications Standard normal distribution Standard scores Z-score T-score	
6	Standard normal distribution Standard scores	
7	Similarities and differences of correlation analysis and regression analysis Types of analysis Simple linear regression equation and process Standard error of estimation	
8	Measures of Variability Sample Analysis Linear Regression Analysis Sample Analysis Standard Scores and Applications	
9	Spearman Brown Rank Differences Correlation Coefficient Binary Correlation Coefficient Point Paired Correlation Coefficient Quadruple Correlation Coefficient Partial Correlation Multiple Correlation Steps of Hypothesis Formation and Hypothesis Testing Degrees of Freedom Sampling Distributions and Confidence Interval Estimation of Mean Selection of Appropriate Statistics	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	2.00	28.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Total Work Load			62.00
Total work load/ 30 hr			2.00
ECTS Credit of the Course			2.00

10	T-test: Testing differences between means Single sample t-test for independent samples t-test sample analysis for independent samples t-test for dependent samples Effect size T-test sample analysis for dependent samples	
11	Determining the type of t-test from samples and appropriate solutions Analysis of variance Similarities and differences between analysis of variance and t-test Analysis of variance - F statistics and Post Hoc comparisons Elements of F statistics	
12	Chi-square analysis Chi-square fit test Chi-square test of independence Differences between chi-square fit and independence tests Sample chi-square analysis	
13	Testing differences between means Mann-Whitney U test Mann-Whitney U test for small group / samples Mann-Whitney U test for large group / samples	
14	Testing the differences between means Wilcoxon compatible pairs signed-rank test Kruskal-Wallis test Friedman chi-square test	

22	Textbooks, References and/or Other Materials:	Büyüköztürk, Ş., Çokluk,Ö. ve Köklü, N. (2019). Sosyal Bilimler için İstatistik. Pegem Akademi, Ankara. Çakır, F. (2000). Sosyal Bilimlerde İstatistik. Alfa Basım Yayım, Bursa. Arıcı, H. (2005). İstatistik-Yöntemler ve Uygulamalar. Meteksan, Ankara. Güler, F. (2006). Temel İstatistik. Beta Basım Yayın, İstanbu
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
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		Participation in mid-term and final exams and in-class studies are taken into account in the measurement and evaluation of the course. The success at the end of the evaluation is made in the form of relative evaluation.

24 ECTS / WORK LOAD TABLE

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	3	3	3	4	5	5	2	2	2	4	5	5	3	3	2
ÖK2	2	3	3	4	4	5	4	3	2	3	4	5	4	3	3	3

ÖK3	1	2	3	4	3	4	5	3	3	2	5	5	5	3	1	2
ÖK4	2	3	3	3	4	5	5	2	2	2	5	4	5	2	2	2
ÖK5	1	2	2	3	4	4	4	3	3	3	5	5	5	3	3	2
ÖK6	2	3	3	2	4	5	5	4	3	2	3	4	5	3	3	2

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**