		STA	TISTICS					
1	Course Title:	STATISTICS						
2	Course Code:	OTO1008						
3	Type of Course:	Compulsory						
4	Level of Course:	First Cycle						
5	Year of Study:	1						
6	Semester:	2						
7	ECTS Credits Allocated:	3.00						
8	Theoretical (hour/week):	2.00						
9	Practice (hour/week):	0.00						
10	Laboratory (hour/week):	0						
11	Prerequisites:	None						
12	Language:	Turkish						
13	Mode of Delivery:	Face to face						
14	Course Coordinator:	Doç.Dr. ERHAN KENAN ÇEVEN						
15	Course Lecturers:	Doç. Dr.	Ömer KAYNAKLI					
16	Contact information of the Course Coordinator:	Tel: 0 224 294 1953 Mail: mkilic@uludag.edu.tr						
17	Website:							
18	Objective of the Course:	To gain data collection, analysis and interperation skills by learning the basics of probability and statistics methods for the tests and measurements under the mechanical engineering						
19	Contribution of the Course to Professional Development:							
20	Learning Outcomes:							
		1	Visualising the data by using graphical methods					
		2	Can edit the data numerically with the help of various statistical parameters					
		3	Know the basic concepts of probability					
		4	Use curve fitting techniques for the given data					
		5	Knows the techniques of sampling and types of the data collection					
		6	Can estimate the population mean and sample rates					
		7	Can use the hypothesis methods					
		8						
		9						
		10						
21	Course Content:							
		Co	ourse Content:					
Week	Theoretical	Practice						

1	To describe the basic concepts statistics such as variable, sample and population.			
	Classification of variables			
	Graphical representation of quantitative variables and interpretation of graphics			
	Relative frequency histograms			
2	Identification of numeric parameters that diagnoses central tendency such as arithmetic mean, median and mode and interpretation of distributions by comparing the parameters.			
	Identification of numeric parameters that indicates variability of distributions such as variance and standart deviation.			
	The method of box representation			
3	Defining the correlation coefficient and determination the shape and direction of the relationship between the variables			
	Introducing Linear curve fitting (regression) method			
Activit	res	Number	Duration (hour)	Total Work Load (hour)
Theore	tical	14	2.00	28.00
Theore Practic	tical Permutations and combinations als/Labs	14 0	2.00 0.00	28.00 0.00
Theore Practic Self stu	tical Permutations and combinations als/Labs Conditional and total probability rules, Bayes Payand preperation	14 0 13	2.00 0.00 5.00	28.00 0.00 65.00
Theore Practic Self stu Homew	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Haw vorks	14 0 13 0	2.00 0.00 5.00 0.00	28.00 0.00 65.00 0.00
Theore Practic Self stu Homew Pr o fect	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's day and preperation works Binomial probability distributions	14 0 13 0 0 0	2.00 0.00 5.00 0.00 0.00	28.00 0.00 65.00 0.00 0.00
Theore Practic Self stu Homew Project Field S	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's day vorks Binomial probability distributions tudies	14 0 13 0 0 0 0 0 0	2.00 0.00 5.00 0.00 0.00 0.00	28.00 0.00 65.00 0.00 0.00 0.00
Theore Practic Self stu Homew Project Field S Midterr	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Haw vorks Binomial probability distributions tudies	14 0 13 0 0 0 0 11	2.00 0.00 5.00 0.00 0.00 0.00 2.00	28.00 0.00 65.00 0.00 0.00 0.00 2.00
Theore Practic Self stu Homew Project Field S Midterr Others	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Gay orks Binomial probability distributions tudies	14 0 13 0 0 0 13 0 13 0 13 0 13 0 0 0 0 0 0 0 0 0	2.00 0.00 5.00 0.00 0.00 0.00 2.00 0.00	28.00 0.00 65.00 0.00 0.00 0.00 2.00 0.00
Theore Practic Self stu Homew Project Field S Midterr Others Fingel E	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Gy and preperation works Binomial probability distributions tudies tudies	14 0 13 0 0 0 11 0 1 1 1	2.00 0.00 5.00 0.00 0.00 2.00 2.00 2.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 2.00
Theore Practic Self stu Homew Project Field S Midterr Others Fing I E Total W	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Haw vorks Binomial probability distributions tudies n exams Uncorrecomptric probability distribution	14 0 13 0 0 0 1 0 1 0 1 0 1 0 1	2.00 0.00 5.00 0.00 0.00 2.00 0.00 2.00 0.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 97.00
Theore Practic Self stu Homew Project Field S Midterr Others Fingel E Total W Total w	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's daw vorks Binomial probability distributions tudies n exams Uncorrecompetio probability distribution (Aeading the probalities from the Z table for /ork Load	14 0 13 0 0 0 1 0 1 0 1 0 1 0 1 0 1	2.00 0.00 5.00 0.00 0.00 2.00 2.00 2.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 97.00 3.23
Theore Practic Self stu Homew Project Field S Midterr Others Fingl E Total W Total w ECTS 0	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Gamma preperation Binomial probability distributions tudies exams Upperating the probability distribution Qeading the probabilities from the Z table for /ork Load Othermal/destribution approach to binomial Credit of the Course	14 0 13 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	2.00 0.00 5.00 0.00 0.00 2.00 0.00 2.00 0.00 2.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 97.00 3.23 3.00
Theore Practic Self stu Homew Project Field S Midterr Others Fingel E Total W Total w ECTS 0	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Gamma and preperation works Binomial probability distributions tudies exams Uncorrespondence Aleaseding the probability distribution Vork Load Misional/CBSnitz ution approach to binomial Credit of the Course Problem solving for practice	14 0 13 0 0 0 1 0 1 0 1 0 1 0 1 0 1	2.00 0.00 5.00 0.00 0.00 2.00 2.00 2.00 0.00 2.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 97.00 3.23 3.00
Theore Practic Self stu Homew Project Field S Midterr Others Fingel E Total W Total w ECTS 0 7	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Haw vorks Binomial probability distributions tudies n exams Uncorrecompetic probability distribution (ABB ding the probalities from the Z table for /ork Load Misional/dBtribution approach to binomial Credit of the Course Problem solving for practice Repeating courses and midterm exam	14 0 13 0 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1	2.00 0.00 5.00 0.00 0.00 2.00 0.00 2.00 0.00 2.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 97.00 3.23 3.00
Theore Practic Self stu Homew Project Field S Midterr Others Fingl E Total W Total W ECTS 0 7 8 9	tical Permutations and combinations als/Labs Conditional and total probability rules, Baye's Gamma preperation Gamma preperation works Binomial probability distributions Binomial probability distributions tudies h exams Hubble probability distribution Hubble probability distribution Gamma preperation Works Binomial probability distributions tudies Frequencies h exams Hubble probability distribution Hubble probability distribution Context probability distribution Missional/cost rubution approach to binomial Credit of the Course Problem solving for practice Repeating courses and midterm exam The central limit theorem Calculation of probabilities for the sample average Statistical process control for the binomial Context probabilities for the sample average	14 0 13 0 0 0 1 0 1 0 1 0 1	2.00 0.00 5.00 0.00 0.00 2.00 0.00 2.00 0.00 2.00	28.00 0.00 65.00 0.00 0.00 2.00 0.00 2.00 97.00 3.23 3.00

10	Estimation of the population mean by methods of confidence interval	/ the						
	Estimation of the success rate of bind distribution by the methods of confide interval	omial ence						
	Estimation of the difference between population means by the methods of confidence interval	the						
	Estimation of the difference between success rates of two binomial distribute the methods of confidence interval	the ution by						
11	Large sample (n> 30) hypothesis tes method	ting						
	One-way and bi-directional hypothes	is testing						
	Types of error in the method of test s	statistics						
12	Large sample hypothesis testing of the difference between the two population	he on mean						
	Hypothesis testing for binomial proba distribution	ability						
	Large sample hypothesis testing of the difference between success rates of binomial distribution	he two						
13	Small sample (n <30) hypothesis tes method	ting						
	Identification of the t distribution table reading the probabilities t table	e and						
	Estimation of the population mean w sample hypothesis testing	ith small						
	Estimation of the difference between population mean with small sample hypothesis testing	the two						
	Paired t-tests							
14	Problem solving for practice							
22	Textbooks, References and/or Other Materials:		1. Introduction to probability and statistics lecture notes, slides and solved questions, Prof. Dr. Muhsin Kılıç.					
			2. Statistics, 3rd Ed, M.R Spiegel, L.J. Stephens. Schaums Outline Series McGraw-Hill, Newyork,1999.					
			3. Uygulamalı İstatistik, S. Özer, Filiz Kitabevi, İstanbul,					
			4. Introduction to Probability and Statistics, 3rd Ed., Wadsworth, California,1971.					
23	Assesment							
TERM L	EARNING ACTIVITIES	NUMBE R	WEIGHT					
Midterr	n Exam	1	40.00					
Quiz		0	0.00					
Home work-project 0			0.00					

Final Exam					1		60	60.00									
Total						2		10	100.00								
Contribution of Term (Year) Learning Activities to Success Grade						40	40.00										
Contribution of Final Exam to Success Grade						60	60.00										
Total							10	100.00									
Measurement and Evaluation Techniques Used in th Course						ne	3										
24 EC	TS /	WO	RK L	OAD	TAB	LE											
25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS																
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ1 0	PQ11	PQ12	PQ1 3	PQ14	PQ15	PQ16	
ÖK1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK2	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK3	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK6	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
ÖK7	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	
LO: Learning Objectives PQ: Program Qualifications																	
Contrib1 very low2 lowutionLevel:				3	Medi	ium		4 High 5 Ve				y High	l				