

# STATISTICAL DATA ANALYSIS

1	Course Title:	STATISTICAL DATA ANALYSIS	
2	Course Code:	END 5151	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	7.50	
8	Theoretical (hour/week):	3.00	
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:	Prof. Dr. SEDA ÖZMUTLU	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	seda@uludag.edu.tr 224-294-2085 Endüstri Mühendisliği Bölümü Görükle Bursa	
17	Website:		
18	Objective of the Course:	To convey statistical analysis techniques to graduate level students for them to use in their applied or theoretical studies .	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Ability to identify and solve real-life problems that contain uncertainty
		2	Ability to analyze collected data from designed or undesigned experiments
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21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Introduction to Fundamentals of Statistics		
2	Measures of Central Tendency and Dispersion		
3	Depicting statistical data with graphics		
4	Proability distributions		

5	Hypothesis testing – statistical estimation	
6	Introduction to regression analysis	
7	Advanced regression analysis	
8	Repeating courses and midterm exam	
9	Correlation measures	
10	One-way ANOVA	
11	Multi-factor ANOVA	
12	ANCOVA	
13	Nonparametric methods	
14	Clustering-classification methods	

22	Textbooks, References and/or Other Materials:	Montgomery, D. C. "Design and Analysis of Experiments", Sixth Ed., John Wiley & Sons, 2004.  Walpole, Myers, Myers and Ye, Probability and Statistics for Engineers and Scientists, Prentice-Hall, 2011
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23	Assesment	
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TERM LEARNING ACTIVITIES	NUMBER	WEIGHT		
Midterm Exam	1	20.00		
Quiz	3	30.00		
Home work-project	5	20.00		
Activites		Number	Duration (hour)	Total Work Load (hour)
Contribution of Term (Year) Learning Activities to Success Grade	70.00	14	3.00	42.00
Practicals/Labs	0	0.00	0.00	0.00
Contribution of Final Exam to Success Grade	30.00	14	8.50	119.00
Self study and preperation	140.00			
Homeworks	5	10.00		50.00
Measurement and Evaluation Techniques Used in the Projects	0	0.00	0.00	0.00
Field Studies	0	0.00	0.00	0.00
Midterm exams	1	2.00		2.00
Others	3	4.00		12.00
Final Exams	1	3.00		3.00
Total Work Load				228.00
Total work load/ 30 hr				7.60
ECTS Credit of the Course				7.50

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	0	5	5	0	0	0	0	5	5	0	5	5	0	0	0	0
ÖK2	0	5	5	0	0	0	0	5	5	0	5	5	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			