MEASUREMENT TECHNIQUE

1	Course Title:	MEASUREMENT TECHNIQUE
2	Course Code:	ELEZ101
3	Type of Course:	Compulsory
4	Level of Course:	Short Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	2
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Öğr.Gör. MEHMET ŞEN
15	Course Lecturers:	Yrd. Doç. Dr. Barış ERKUŞ
16	Contact information of the Course Coordinator:	mehmetsen@uludag.edu.tr
17	Website:	
18	Objective of the Course:	Learn and define importance of measurement in applications, know electrical and electronic quantities
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	Know measurement faults and analyse statistically.
	2	Define fundamental principals and features of measurement tolls
	3	Design basic measurement tools
	4	Choose correct measurement tools
	5	Use more than one measurement tools in the same circuit
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Measurement, measurement units, fundamental electrical quantities	
2	Measurement faults and its classification	
3	Learn electrical quantities, working principals and stuructures of tools, dc measurement tools, measurements by galvonometer	
4	Features and structures of electrodynamic measurement tools, correctness and resolutions of measurement tools.	

5	Voltage and current measurement in DC.	
6	Measurement of different quantities in AC.	
7	Voltage and current transformers and their use.	
8	Structure of electrodynamic measurement tools and Wattmeters	
9	Electrical power and power factor, and their measurements of in single phase AC.	
10	Power measurements in balanced and unbalanced(aron) 3 phase loads.	
11	Energy measurement, active and reactive energy measurement tools, their structures and working principals.	
12	Use and structures of oschiloscopes and diffrent applications.	
13	Industrial measurements, sensors and transducers, different applications	
14	Lab application exam and assestment of reports.	

22	Textbooks, References and/or Other Materials:	1.)Prof. Dr. Abdi DALFES, Elektrik Ölçme Laboratuarı Deneyleri 2.) Doç. Dr. H.Pastacı, "Elektrik ve Elektronik Ölçmeleri", Yıldız Üni., 1992 3.)Hasan ÖNAL, Elektronik ve Ölçme Dersleri 4.)Kadir ANASIZ, Elektrik Ölçü Aletleri ve Elektriksel Ölçmeler 5.)Saip DEVELİ, Elektriksel Ölçme Aletleri ve Elektriksel Ölçmeler 6.) Hasan ÖNAL, Ölçme Tekniği 7. Nacar, Mahmut; Elektrik Elektronik Ölçmeleri ve

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical			
TERM LEARNING ACTIVITIES / **NUMBE** / **WEIGHT**			
Practicals/Labs			
Midterm Exam	1	40.00	
Self study and preperation			
Quiz	0	0.00	
Homeworks			
Home work-project	0	0.00	
Projects			
Final Exam		60.00	
Field Studies			
Total	2	100.00	
Midterm exams			
Contribution of Term (Year) Learning Activities to		40.00	
Others			
Final Exams			
Contribution of Final Exam to Success Grade		60.00	
Total Work Load			
Total		100.00	
Total work load/ 30 hr			
Measurement and Evaluation Techniques Used in the			
ECTS Credit of the Course			6.00

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	4	3	3	0	3	3	3	3	4	3	3	4	0	0	0	0
ÖK2	3	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
ÖK3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	4	5	0	0	0	0	0	4	0	0	0	0	0	0	0	0

ÖK5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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