ELECTRICITY LABORATORY

1	Course Title:	ELECTRICITY LABORATORY	
2	Course Code:	FZK2051	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	1.00	
8	Theoretical (hour/week):	0.00	
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:	Prof. Dr. NİL KÜÇÜK	
15	Course Lecturers:	Yok	
16	Contact information of the Course Coordinator:	nilkoc@uludag.edu.tr, (0224) 29 41 705, Prof. Dr. Nil KÜÇÜK, BUÜ Fen Edebiyat Fakültesi, Fizik Bölümü, 16059 Görükle Kampüsü, Bursa	
17	Website:		
18	Objective of the Course:	Verifying Ohm's Law, Learning the conversion of electrical energy to heat energy, Be able to measure the "L" induction coefficient of a current loop, Determining the frequency of alternating current with stable wave method, Determining the capacitance of a capacitor, Verifying Faraday's laws, Learning to use the Wheatstone bridge, Applying Kirchhoff's laws, To be able to measure the magnetic forces acting on the current passing wire To establish a relationship between this information and the events they encounter in their daily life or work environment and to benefit from this information.	
19	Contribution of the Course to Professional Development:	To establish a relationship between the information learned and the events they encounter in daily life or work environment and to benefit from this information.	
20	Learning Outcomes:		
		1	Learns how to connect voltmeter and ammeter to the circuit and how to read it.
		2	Learns how electrical energy transforms into heat energy and the relationship between them.
		3	Learns the difference between direct voltage and alternating voltage.
		4	It can find the frequency of alternating current.
		5	Gains information about capacitor and coil from circuit elements.
		6	Learn Faraday's laws.
		7	Learns the feature and usage of Wheatstone bridge.
		8	Can apply Kirchhoff's laws.
		9	It can measure the magnetic forces acting on the current passing wire.
		10	
21	Course Content:		
	Course Content:		

Week	Theoretical	Practice
1		Registration for the course, determination of experimental groups
2		Experiment-1: Ohm's law
3		Experiment 2: Joule's law
4		Experiment-3: Measuring electromotive force with potentiometer
5		Experiment-4: Measuring the "L" induction coefficient of a current reel
6		Experiment-5: Alternating current frequency
7		Experiment-6: Resistance-capacitance cycles
8		Experiment-7: Capacitance measurement
9		Experiment-8: Electrolysis
10		Experiment-9: Determination of resistance with Wheatstone bridge
11		Experiment-10: Kirchhoff's laws
12		Experiment-11: Magnetic acting on a current passing wire measurement of forces
13		Practice exam
14		General evaluation

22	Textbooks, References and/or Other Materials:	1. FZK 2051_Electrical Laboratory Experiment Guide, Physics Department, 2020.

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	0	0.00	0.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	0	0.00	0.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	1.00	1.00
Others	0	0.00	0.00
Final Exams	1	1.00	1.00
Total Work Load			31.00
Total work load/ 30 hr			1.00
ECTS Credit of the Course			1.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	0	0.00
Final Exam	1	60.00
Contribution of Term (Year) Learning Activities to		40.00
Contribution of Final Exam to Success Grade		60.00
Measurement and Evaluation Techniques Used in the	The system of relative evaluation is applied.	

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	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
ÖK6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK9	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**