ELECTRICITY AND MAGNETISM LABORATORY

1	Course Title:	ELECTRICITY AND MAGNETISM LABORATORY
2	Course Code:	FZK1054
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	2.00
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	UNDERSTANDS BASIC CONCEPTS OF ELECTRICITY AND MAGNETISM
	2	RECOGNIZES AND USES CIRCUIT ELEMENTS
	3	CAN DESIGN AND INSTALL ELECTRICAL CIRCUITS
	4	ACQUIRES SKILLS TO ANALYZE EXPERIMENTAL RESULTS
	5	GAINS SKILLS TO WORK INDIVIDUALLY AND IN TEAM
	6	
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	10	
21	Course Content:	

Course Content:

Week	Theoretical	Practice
1		DETERMINATION OF EXPERIMENTAL GROUPS

2		INFORMATION AND RULES ABOUT THE LABORATORY COURSE
3		Experiment-1: OHM'S LAW
4		Experiment-2: RESISTANCE MEASUREMENT WITH WHEATSTONE BRIDGE
5		Experiment-3: CHARGE AND DISCHARGE OF A CAPACITOR THROUGH THE RESISTOR
6		Experiment-4: FINDING THE DIELECTRIC CONSTANT OF DIFFERENT MATERIALS
7		Experiment-5: TRANSFORMERS
8		Experiment-6: MAGNETIC FIELD OF A COIL
9		Experiment-7: MEASUREMENT OF MAGNETIC FIELD GENERATED IN HELMHOLTZ COILS
10		Experiment-8: WIRELESS ENERGY TRANSMISSION WITH TESLA COIL
11		PRACTICAL EXAM
12		REPEAT EXPERIMENT
13		REPEAT EXPERIMENT
14		GENERAL EVALUATION

22	Textbooks, References and/or Other Materials:	1. FZK 2051_Electricity and Magnetism Laboratory Experiment Guide, Physics Department, 2024. 2. Physics 2. Volume, F.J.Keller & W.E.Gettys, Mc Graw Hill-Literatür., Istanbul 1996.

24 ECTS / WORK LOAD TABLE

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	14	2.00	28.00
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			58.00
Total work load/ 30 hr			1.93
ECTS Credit of the Course			2.00

Midterm Exam	Contribution of Final Exam to Success Grade	Total
1	40.00	100.00
0	0.00	
1	60.00	
2	100.00	

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	4	5	3	4	3	0	3	1	4	3	0	0	0	0
ÖK2	4	3	4	5	0	0	3	0	1	2	2	3	0	0	0	0
ÖK3	4	3	2	5	0	2	3	0	3	3	2	3	0	0	0	0
ÖK4	4	3	4	5	0	4	3	0	3	1	4	3	0	0	0	0

ÖK5	4	3	4	5	0	4	3	0	3	1	4	3	0	0	0	0
ÖK6	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**