

## PHYSICS 2 (ELECTRIC)

1	Course Title:	PHYSICS 2 (ELECTRIC)	
2	Course Code:	FEN2216	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	4	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	4.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. REMZIYE ERGÜL	
15	Course Lecturers:	Prof. Dr. N. Remziye Ergül	
16	Contact information of the Course Coordinator:		
17	Website:		
18	Objective of the Course:	To provide basic conceptual understanding of Electricity and Magnetism, to apply the principles of physics to different situations and to develop necessary thinking and problem solving skills.	
19	Contribution of the Course to Professional Development:	Builds and develops the knowledge infrastructure of the pre-service teacher's field.	
20	Learning Outcomes:		
		1	Knows and defines the basic concepts, laws and principles of electricity.
		2	Knows and defines the basic concepts, laws and principles related to magnetism.
		3	Solves problems by using necessary calculation methods related to electricity.
		4	Solves problems using necessary computational methods related to magnetism.
		5	Explains the reflections of electricity and magnetism on daily life and technology.
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21	Course Content:		
		<b>Course Content:</b>	
Week	Theoretical	Practice	
1	Electric charge and conservation, electrification, insulators and conductors,		
2	Coulomb's law, electric field concept		
3	Electric flux, Gauss's law and its applications		

4	Electric potential energy, electric potential	
5	Capacitance, capacitance and dielectrics, coupling and energy in capacitors.	
6	Direct current, resistance and Ohm's Law, connecting resistors, impedance	
7	Direct current circuits.	
8	Kirchhoff's Laws, solution of circuit problems.	
9	Magnetism and magnetic field,	
10	Magnetic force	
11	Electromagnetic induction,	
12	Faraday's law	
13	Matter and magnetism, magnetic properties of matter	
14	Electric motors, transformers.	

22	Textbooks, References and/or Other Materials:	<p>Fishbane, P.M., Gasiorowicz, S., and Thornton, S.T. Fundamental Physics, Volume 2, Arkadaş Publishing House, Ankara</p> <p>Serway, R.A. 1990; Physics for Science and Engineering, Volume 2, Palme Publishing, Ankara</p> <p>Bueche, J., F., Jerde, A., D. Principles of physics, volume 2,</p>
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Activites		Number	Duration (hour)	Total Work Load (hour)
23	Theoretical Assessment	14	4.00	56.00
Practicals/Labs		0	0.00	0.00
Self study and preperation		14	3.00	42.00
Midterm Exam		1	40.00	
Homeworks		5	5.00	25.00
Projects		0	0.00	0.00
Home work-project		0	0.00	
Field Studies		0	0.00	0.00
Midterm exams		1	1.00	1.00
Total		2	100.00	
Others		0	0.00	0.00
Continuation of Term (Year) Learning Activities to Success Grade		1	1.00	1.00
Total Work Load				125.00
Total work load/ 30 hr		100.00		4.17
ECTS Credit of the Course				4.00
Measurement and Evaluation Techniques Used in the Course		There are exams with open ended and multiple choice questions. In addition, reinforcement assignments are given during the semester.		

24	ECTS / WORK LOAD TABLE
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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	5	5	0	0	5	0	0	0	5	5	0	0	0	0	4	0
ÖK2	5	5	0	0	5	0	0	0	5	5	0	0	0	0	4	0
ÖK3	5	5	0	0	5	0	0	0	5	5	0	0	0	0	4	0

ÖK4	5	5	0	0	5	0	0	0	5	5	0	0	0	0	4	0
ÖK5	5	5	0	0	5	0	0	0	5	5	0	0	0	0	4	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			