

<b>Department</b> Department of Mathematics			<b>Academic Year</b> 2022-2023	<b>Date</b> 01/12/2022	
<b>Course Unit Code</b> FİZ2112	<b>Course Unit Title</b> Physics II		<b>Semester/Year</b> Spring / 2	<b>Number of ECTS Credits</b> 3	
<b>Language of Instruction</b>	Turkish				
<b>Type of Course Unit</b>	Compulsory				
<b>Prerequisites and co-requisites</b>	-				
<b>Address of course</b>	-				
<b>Local Credit</b>	<b>Theoretical</b>	<b>Practical</b>	<b>Laboratory</b>	<b>Presentation</b>	<b>Project</b>
2	2	0	-	-	-
<b>Name of Lecturers</b>	Associate Professor Fethi DAĞDELEN				
<b>Assistants</b>	-				

<b>Course content</b>	Electric Fields, Gauss's Law, Electric Flow, Application of Gauss's Law to Loaded Insulators, Electric Fields, Properties of Electric Charges, Properties of Electric Charges, Coulomb's Law, Problem Solutions, Electric Field, Electric Field of a Continuous Charge Distribution, Electric Field Lines, Problem solutions, Experimental proof of Gauss and Coulomb laws, Derivation of Gauss law, Problem solutions, Electric potential, Potential difference and electric potential, Problem solutions, Uniform potential difference of electric field, Electric potential and potential energy of point charge, Problem solutions, potential of point load, Problem solutions, Electric potential of continuous charge distribution, Obtaining electric field from electric potential, Potential of a loaded conductor, Problem solutions, Problem solutions, Current and Resistance, Battery, Electric current, Resistance and Ohm law, Problem solving, Electrical energy and power, Problem solutions for various conductors, Problem solving, Problem solving , Direct Current Circuits, Electromotive Force, Series and Parallel Resistors, Kirchhoff's Rules, Problem Solutions, Magnetic Fields, Definition of Magnetic Field, Magnetic Force Acting on Current-carrying Conductors, Problem Solutions
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Weekly Detailed Course Contents	
Week	Topic
1	Electric fields, properties of electric charges, coulomb law, problem solutions
2	Electric field, electric field of a continuous charge distribution, electric field lines, motion of charged particles in a uniform electric field, problem solutions
3	Gauss's law, electric flow, application of Gauss's law to loaded insulators, problem solutions
4	Experimental evidence of Gauss and Coulomb laws, derivation of Gauss law, problem solutions
5	Electric potential, potential difference and electric potential, problem solutions
6	Potential difference of a uniform electric field, electric potential and potential energy of point load, problem solutions
7	Electric potential generated by continuous charge distribution, obtaining electric field from electric potential, potential of a charged conductor, problem solutions
8	Suture and capacitor, definition of suture, calculation of suture, connection of condensers, energy saved in loaded condenser, problem solutions
9	General application
10	Current and resistance, battery, electric current, resistance and ohm law, resistance of various conductors, problem solutions
11	Electrical energy and power, problem solutions
12	Direct current circuits, electromotive force, series and parallel resistors, Kirchhoff's rules, problem solutions
13	Magnetic fields, definition of magnetic field, magnetic force acting current carrying conductors, problem solutions
14	A brief evaluation of the course content and topics

<b>Course Resources</b>	Physics for Science and Engineers Volume II, Translation Kemal Çolakoğlu
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Assessment Methods and	In-Term studies	Quantity	Percentage (%)
	Mid-Term Exams	1	40

<b>Criteria</b>	<b>Quizzes</b>	-	-
	<b>Assignments</b>	-	-
	<b>Projects</b>	-	-
	<b>Term assignment</b>	-	-
	<b>Laboratory</b>	-	-
	<b>Other</b>	-	-
	<b>Final exam</b>	1	60
<b>On Assessment Methods and Criteria</b>	A grade of success; the relative evaluation system or the discretion of the instructor. In order to be taken into consideration in the courses in which the relative evaluation system and teaching staff's discretion are applied, the final exam score of the student must be at least YSAS. Students who fall below this score are considered to fail directly. For the courses that can not be evaluated with the relative evaluation system, the letter grades of the success grades are determined by the consent of the instructor teaching the table by 100 points by the Senate using the distribution of the final grade of success. A student who has received a grade AA, BA, BB, CB or CC grade is deemed to have completed that course. A student who has received one of the grade DC or DD grades is deemed to have fulfilled that course condition. In order for a student who takes DD and DC letters to be counted as successful, the GNO must be at least 2.00. A student who receives a graded FF grade is considered to have failed that course		

<b>Percentage of Course Category (%)</b>	<b>Mathematics and Basic Sciences</b>	100
	<b>Computer Sciences</b>	0
	<b>Programming Design</b>	0
	<b>Social sciences</b>	0

<b>Course Outcome</b>	Students studying in the fields of science and mathematics, learn the subjects of electricity and magnetism
<b>Aims of the course</b>	The student provide to basic information about electrical and magnetic properties
<b>The way of processing course</b>	Face to face

<b>Relation of the course with program outcomes</b>				
Learning outcomes		1	2	3
1	To have advanced theoretical and applied knowledge in a way to prioritize the scientific approach supported by textbooks containing up-to-date information in the field, application tools and other resources			
2	Adapting and transferring the knowledge gained in the field to secondary education			
3	Ability to independently carry out an advanced study in the field			
4	Be aware of the necessity of lifelong learning and continuously improve their professional knowledge and skills.			
5	Using a foreign language at least at the European Language Portfolio B1 General Level, following the information in the field and being able to communicate with colleagues			
6	To be able to use information and communication technologies together with computer software at minimum advanced level of European computer license required by the field.			
7	Have the ability to make oral and written presentation in native language			
8	Having the ability to understand spoken English and use English at reading level			
9	To have the ability to assimilate mathematical concepts and understand the relationships between them, to recognize different aspects of the same concepts and relationships		X	
10	To have the ability to define and formulate the relationships between items in non-mathematical disciplines in the language of mathematics.			X
11	To have the ability to use mathematical knowledge in different problems			X
12	Having the ability to develop computer programs using mathematical knowledge			
<b>Contribution of the course: 1:No 2:Partially 3:Completely</b>				

**Preparer:** Associate Professor Fethi DAĞDELEN

**Preparation date:** 01/12/2022