Fizik Bölümü / PHYSICS /

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS
FZK-1002	Physıcs II (Electricity and Magnetism)	4.00	2.00	0.00	5.00	7.00

Course Detail

Course Language	:	Turkish
Qualification Degree	:	Bachelor
Course Type	:	Compulsory
Preconditions	:	Not
Objectives of the Course	:	This course is an introduction to electricity and magnetism. we will discuss electric change, Coulomb's law, electric structure of matter (conductors and dielectrics), concept of electrostatic field and potential, electrostatic energy, electric currents, magnetic fields and Ampere's law, magnetic materials, time-varying fields and Faraday's law of introduction, basic electric circuits, elektromagnetic wave and Maxwell's equations.
Course Contents	:	Electrical properties of discontinuous and continuous charge distributions, relationship between electrostatics and electrodynamics, circuits analysis methods, magnetic field sources, magnetic and electrical forces, problems of Electricity and Magnetism.
Recommended or Required Reading	:	Serway, R.A. 1992, Physics For Scientists & Engineers with Modern Physics, Third Edition, Saunders Golden Sunburst Series, Saunders College Publishing.
Planned Learning Activities and Teaching Methods	:	he teaching method is a modern mode in which students are active with questions-answers and discussion. The course is presented with use of the blackboard and demonstration of slides.
Recommended Optional Programme Components	:	Playing games, observing physics phenomena, reading books and exercising on a large number of sample problems to increase problem solving abilities.
Instructors	:	Prof. Dr. Ahmet Erdem
Instructor's Assistants	:	Dr. Oğuz ÖZTÜRK
Presentation Of Course	:	Face to face

Course Outcomes

Upon the completion of this course a student :

1 Comprehend the electrical properties of discontinuous and continuous charge distributions

2 Establish a relationship between electrostatics and electrodynamics

3 Apply the circuits analyse methods

4 Understand the magnetic field sources

5 Relate the magnetic and electrical forces

6 Solve the problems of Electricity and Magnetism

Preconditions

Course Code	Course Name	Teorical	Practice	Laboratory	Credits	ECTS

Weekly Contents

	Teorical	Practice	Laboratory	Preparation Info	Teaching Methods
1.Week	*Electric Fields	*Electric Fields			
2.Week	*Gauss's Law	*Gauss's Law			
3.Week	*Electric Potential	*Electric Potential			
4.Week	*Capacitance and Dielectrics	*Capacitance and Dielectrics			
5.Week	*Current and Resistance	*Current and Resistance			
6.Week	*Direct Current Circuits	*Direct Current Circuits			
7.Week	*Magnetic Fields	*Magnetic Fields			
8.Week	*Sources of Magnetic Field	*Sources of Magnetic Field			
9.Week	*Faraday's Law	*Faraday's Law			
10.Week	*Inductance	*Inductance			
11.Week	*RL Circuits	*RL Circuits			
12.Week	*RLC Circuits	*RLC Circuits			
13.Week	*Alternating Current Circuits	*Alternating Current Circuits			
14.Week	*Electromagnetic Waves	*Electromagnetic Waves			

Assesment Methods %

1 Vize : 40.000

2 Final : 60.000

ECTS Workload

Activities	Count	Time(Hour)	Sum of Workload
Vize	1	2.00	2.00
Ödev	5	2.00	10.00
Final	1	2.00	2.00

Activities	Count	Time(Hour)	Sum of Workload
Application / Practice	14	1.00	14.00
Individual study before lecture	7	1.00	7.00
Individual study after lecture	7	1.00	7.00
Preparation for midterm	7	2.00	14.00
Preparation for final	7	2.00	14.00
Make-up	1	2.00	2.00
Theoretical Lecturing	14	1.00	14.00
Problem Çözme	5	2.00	10.00
Application/Practice	14	2.00	28.00
Class Hours (14 weeks)	14	4.00	56.00
Final Exam Preparation	7	2.00	14.00
Mid Term Exam Preparation	6	2.00	12.00
Further Study	5	2.00	10.00
Preliminary Study	5	1.00	5.00
		Total :	221.00
		Sum of Workload / 30 (Hour) :	7
		ECTS :	7.00

Program And OutcomeRelation

	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24
L.O. 1	1	1	1	2	2	1	1	1	1	1	1	1	1	2	2	1	1	2	2	2	1	1	2	1
L.O. 2	2	2	1	3	3	1	1	2	1	2	2	1	1	2	2	1	2	3	2	3	2	2	3	1
L.O. 3	3	3	2	3	3	2	2	3	1	2	2	3	2	3	3	2	2	3	3	4	2	2	3	2
L.O. 4	3	4	2	4	4	2	3	3	2	3	3	4	2	3	4	3	3	4	3	4	3	2	4	2
L.O. 5	4	5	3	4	4	3	3	4	3	3	3	4	3	4	4	4	3	4	4	4	4	3	5	3
L.O. 6	5	5	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4

Ders/Program Çıktıları İlişkisi

P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15	P.O. 16	P.O. 17	P.O. 18	P.O. 19	P.O. 20	P.O. 21	P.O. 22	P.O. 23	P.O. 24	P.O. 2
5	5	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4