

<b>Course Description</b>	
Course Code	PHYS 104
Course Name	PHYSICS II
Prerequisite Courses	
Language of the Course	
Course Coordinator	
Instructor(s)	
Course Assistants	
The aim of the course	To provide a basic understanding of electric fields and magnetic fields.
Course Content	Electric fields, Electric potential, Capacitors and dielectrics, current, and resistance, Electric Circuits. Magnetic field, Ampere law. Faraday induction law, Inductance, Magnetic materials, Alternative current, Maxwell equations.

<b>Weekly Course Content</b>	
Week 1	Electric Charge and Electric Field
Week 2	Gauss's Law
Week 3	Electric Potential
Week 4	Capacitance and Dielectrics
Week 5	Current, Resistance, and Electromotive Force
Week 6	Direct-Current Circuits
Week 7	Direct-Current Circuits Analysis
Week 8	Midterm exam
Week 9	Magnetic Field and Magnetic Forces
Week 10	Sources of Magnetic Field
Week 11	Electromagnetic Induction
Week 12	Inductance
Week 13	Alternating Current
Week 14	Alternating Current Circuits Analysis
Week 15	Final exam.

<b>Course Learning Outcomes</b>	
1	Know the properties of the electric charge.
2	Learn how to calculate the electric field due to a collection of charges.
3	Know what is meant by electric flux, and how to calculate it.
4	Learn the nature of capacitors, and how to calculate a quantity that measures their ability to store charge.
5	Know what is meant by the resistivity and conductivity of a substance.
6	Learn how to analyze circuits with multiple resistors in series or parallel.
7	Learn the source of the magnetic field.
8	Learn the four fundamental equations that completely describe both electricity and magnetism.
9	Understand how to relate the induced emf in a circuit to the rate of change of current in the same circuit.
10	Comprehend how to analyze the of the alternating current circuits.

<b>Contribution of the Course to Program Qualifications</b>		<b>Contribution Level</b>
01	The student will have the ability to apply analytical approach, mathematics and science knowledge in software and engineering issues.	4
02	The student will have the ability to identify, define, formulate and solve a problem in software and computer systems.	3
03	The student will have gains scientific research skills in software and engineering problems, has the ability to design a system, part or process.	4
04	The student will have the ability to use the design capability, techniques and tools required for engineering applications.	4
05	The student will have the ability to design, implement and interpret experimental work and software projects by analyzing the results.	5
06	The student will have the ability to work between disciplines and teamwork.	3
07	The student will have the ability to work in international environments and adapt to different cultures.	5
08	The student will have verbal and written communication skills in Turkish and English.	5
09	The student will have the awareness of the necessity of lifelong learning and the ability to realize it.	4
10	The student will gain knowledge of legal issues with the awareness of professional and ethical responsibility.	3
11	The student will have managerial skills (leadership, organization, time and risk management, quality awareness, efficiency, etc.).	4
12	The student will have the ability to participate in social activities, to acquire regular sports habits and to use time in the best way.	3
13	The student will have the ability to find unusual ways and produce projects.	4
14	The student will have professional self-confidence, being an entrepreneur and taking initiative.	4
15	It is sensitive about the problems of the age and looks after the national interests.	4

<b>ECTS WORKLOAD</b>			
	<b>Number</b>	<b>Duration (hours)</b>	<b>Number*Duration</b>
Face to face education	14	4	56
Out-of-class study time (pre-study, reinforcement)	14	4	56
Homeworks	0	0	0
Presentation / Seminar preparation	0	0	0
Quizzes	0	0	0
Preparation for midterm exams	1	20	20
midterm exams	1	2	2
Project (Semester assignment)	0	0	0
Lab	0	0	0
field work	0	0	0
Preparation for the final exam	1	30	30
Semester final exam	1	2	2
Research	0	0	0
<b>TOTAL WORKLOAD</b>			<b>166</b>
<b>ECTS</b>			<b>6</b>

<b>Evaluation</b>		
<b>SEMESTER EVALUATION</b>	<b>Number</b>	<b>Contribution Percentage</b>
Midterm	1	100
Quiz	0	0
Homework	0	0
<b>SEMESTER TOTAL</b>		<b>100</b>

Contribution rate of mid-term evaluations to success		40
Contribution rate of the final exam to success		60
<b>GRAND TOTAL</b>		<b>100</b>

**RESOURCES**

Textbook	Young H.D. ve Freedman A.R. Üniversite Fiziği Cilt II , Çev. Ed.: Hilmi Ünlü,Pearson Education Yayıncılık, 2009
Helpful Resources	Serway R.A, Fen ve Mühendislik için Fizik II (Elektrik ve Manyetizma), ; Çev. Ed: Kemal Çolakoğlu, Palme Yay., 2002.