Course Unit Title	General Physics II
Course Unit Code	PHY 102
Type of Course Unit	Compulsory
Level and Type of Course Unit	B.Sc., Basic (B), Supporting (R)
National Credits	4
Number of ECTS Credits Allocated	6 ECTS
Theoretical (hour/week)	3
Practice (hour/week)	-
Laboratory (hour/week)	1
Year of Study	1
Semester when the course unit is delivered	2
Course Coordinator	Erkut İnan İşeri -
Name of Lecturer (s)	Hanifa Teimourian
Name of Assistant (s)	Khalid M. Ahmed, Samuel Nii Tackie
Mode of Delivery	FacetoFace, Group study
Language of Instruction	English
Prerequisites	PHY 101
Recommended Optional Program Components	-

Course description:
A basic physics course which study electric and magnetic phenomenas. Topics include electricity, magnetism, and direct current circuits. Laboratory work is an important component of the course.

Objectives of the Course:

- Be able to know the basic laws of electricity and magnetism.
- To apply those laws for solving problems.
- To be able to use his/her knowledge in the fields of other sciences and/or engineering.
- Understanding how physics approach and solve problems in electricity and magnetism.

Learning Outcomes

At the end of the course the student should be able to		Assessment
1	Describes the electrical charge and electrification	1, 2
2	Determines electrical potential and electrical potential energy	1, 2
3	Determines the technological uses of the capacitors and designes basic circuits with them	1, 2
4	analyzes basic direct current circuits	1, 2
5	Describes the effected magnetic force on moving charges, applies Biot-Savart's Law or Ampere's Law to determine the magnetic field	1, 2
6	Evaluates the electromagnetic induction, applies Faraday and Lenz law to electrical circuits	1, 2
7	Basic communication skills by working in groups on laboratory experiments and the thoughtful discussion and interpretation of data	3, 5
8	Enhance the student's ability and motivation to solve seemingly difficult problems in various fields	1, 2

Assessment Methods: 1. Written Exam, 2. Assignment, 3. Project/Report, 4. Presentation, 5. Lab. Work

Course's Contribution to Program		
		CL
1	Apply knowledge of mathematics, natural science with relevant to life science and multidisciplinary context of engineering science.	5
2	Analyze, design and conduct experiments, as well as to analyze and interpret data.	3
3	Design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability.	1
4	Function on multidisciplinary teams.	1
5	Control in design work, by using simulation, modeling and tests and integration in a problem solving oriented way.	2
6	Display an understanding of professional and ethical responsibility.	3
7	Communicate effectively aware of the non-technical effects of engineering.	1
8	Search technical literature and other information sources.	2
9	Recognize of the need for, and an ability to engage in life-long learning.	2
10	Exhibit knowledge of contemporary issues.	2
11	Use techniques, skills and modern engineering tools necessary for engineering to develop marketable products for the global market.	1
CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High)		

Course Contents

Week	Chapter	Topics	Exam
1	21	Electric charge	
2	22	Electric fields	
3	23	Electric fields Gauss' law	
4	24	Gauss' law	
5	25	Electric potential	
6	26	Electric potential Capacitance	
7	27	Capacitance	
8	28	Current and resistance	
9			Mid-Term Exam.
10	29	Circuits	
11	29	Circuits	
12	30	Magnetic fields due to currents	
13	31	Magnetic fields due to currents Induction and inductance	
14	32	Induction and inductance	
15			Final

Recommended Sources

Textbook:
R D. Halliday, R. Resnick, and J. Walker, "Principles of Physics", 9th Edition, Wiley.

Supplementary Course Material

R. A. Serway and R. J. Beichner , "Physics for Scientist and Engineers with Modern Physics", 8th Edition, Thomson Brooks/ColeDouglas C. Giancoli, Physics for Scientist and Engineers with Modern Physics, 4th Edition, Printice Hall.

Assessment

Attendance	-	
Assignment	-	
Laboratory	15%	
Midterm Exam	35%	Written Exam
Final Exam	50%	Written Exam
Total	100%	

Assessment Criteria

Final grades are determined according to the Near East University Academic Regulations for Undergraduate Studies

ECTS allocated based on Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including Exam weeks)	15	4	60
Labs and Tutorials	13	1	13
Assignment	-	-	-
Project/Presentation/Report	-	-	-
E-learning activities	-	-	-
Quizzes	-	-	-
Midterm Examination	1	2	2
Final Examination	1	2	2
Self Study	14	6	90
Total Workload			162
Total Workload/30(h)			5.6
ECTS Credit of the Course			6