HASAN KALYONCU UNIVERSITY
Faculty of Engineering
Course Description Form

COURSE: General Physics II				
CODE: PHYS102	**SEMESTER:** SPRING			
LANGUAGE: ENGLISH	**TYPE:** COMPULSORY			
PRE-REQUISITES:- **CO-REQUISITES:-**	**THEORY**	**PRACTICAL**	**CREDIT**	**ECTS**
WEEKLY HOURS:5	3	2	4	6

CONTENT OF THE COURSE:
Definition of charge and electric fields. Determination of electric field due to a point charge or to a charge distribution. Using Gauss's law for symmetric charge distributions. Definition of electric potential and capacitance. Foundation of basic circuit elements. Definition of magnetic field and source of magnetic fields. Inductance and analyses of basic direct and alternating circuits. Using Maxwell's laws to describe the light as an electromagnetic wave.

OBJECTIVE OF THE COURSE:
The main objective of this course is to teach students the fundamental laws of electricity and magnetism and how to use this knowledge in understanding the operation of basic electrical and magnetic circuit elements. This course will also teach students the description of light as electromagnetic waves.

WEEKLY SCHEDULE	
Week	**Topics**
1	Electric Charge and Electric Field
2	Electric Charge and Electric Field
3	Gauss's Law
4	Gauss's Law
5	Electric Potential
6	Electric Potential
7	Capacitance and Dielectrics
8	MIDTERM
9	Current, resistance, and electromotive
10	Current, resistance, and electromotive
11	Direct-Current circuits
12	Direct-Current circuits
13	Magnetic field and magnetic forces
14	Magnetic field and magnetic forces

TEXTBOOK:
SEARS AND ZEMANSKY'S University Physics with Modern Physics, 14th Ed. by Young and Freedman, Pearson (2016).
REFERENCE BOOKS:
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INSTRUCTOR(S):	Dr. Özden Demircioğlu
FORM PREPARATION DATE:	25.11.2019

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**
LO1	1	1	1	0	0	0	0	0	0	0	0
LO2	3	3	3	0	0	0	0	0	0	0	0
LO3	1	3	1	0	0	0	0	0	0	0	0
LO4	1	1	0	3	0	0	0	0	0	0	0
LO5	1	1	0	0	0	0	0	0	0	0	0
	PO: Program Outcomes | LO: Learning Outcomes Values: 0: None | 1: Low | 2: Medium | 3: High										

LEARNING OUTCOMES OF THE COURSE:
LO1: Applying knowledge of math and science to various problems in electricity and magnetism. **LO2:** Learning electric and magnetic field concept and motion of charged particles in electric and magnetic fields. LO3: Learning how to determine fields due to a static charge distribution or to a charge flow. **LO4:** Learning operation and design of basic electric circuit elements and their everyday applications. **LO5:** Understanding propagation of light in the vacuum and in a medium.

CONTRIBUTION OF THE COURSE TO VOCATIONAL EDUCATION
Students gain basic knowledge of electricity.