	Course name: PHYS102 Physics II		**Department:** Electrical and Electronics Engineering				Semester 2
	Methods of Education						Credit (ECTS)
	Lecture	Study Time	Quiz	Project	Exam (incl. Prep.)	Total	4
	42	40	0	0	38	120	

Language	English
Compulsory/Elective	Compulsory
Prerequisites	None
Course Contents	Electric charge; electric field; Gauss` law, electric potential; capacitance; current and resistance; dc circuits; magnetic field; Ampere`s law; Faraday`s law of induction; electro-magnetic oscillations; alternating currents.
Course Objective	The objective of this course is to provide basic principles of electricity and magnetism to help students pursuing advanced studies in engineering, to develop conceptual understanding of physical principles on electricity and magnetism, and to provide the ability and skills for problem solving.
Learning Outcomes and Competences	- Describe the relationships that hold for electricity and magnetism and the interactions between them, - Apply Coulomb's Law, Faraday's Law, Ohm's Law, Kirchhoff's rules and Lenz's Law to solve problems in electromagnetism, - Calculate current, potentials, resistances, and electromotive forces for simple DC and AC circuits, - Describe the magnetic fields, forces, and potentials involved in the interaction of point charges and of currents, - Describe how devices such as inductors, capacitors, resistors, and measurement devices such as ammeters, ohmmeters, and galvanometers are used.
Textbook and /or References	**Main Textbooks:** 1. Young & Freedman, University Physics, Vol. II, (14th Ed.), Pearson 2. Jewett and Serway, Physics for Scientists and Engineers, Vol. II (9th Ed.), Thomson

Assessment Criteria	If any, mark as (X)	Percentage (%)
Midterm Exams	X	40
Quizzes		
Homework		
Projects		
Laboratory work		
Other		
Final Exam	X	60

Instructors	

Weekly Schedule

Week	Subject
1	Electric Charge and Electric Field
2	Gauss's Law
3	Electric Potential
4	Capacitance and Dielectrics
5	Current, Resistance, and Electromotive Force
6	Direct-Current Circuits
7	Magnetic Field and Magnetic Forces
8	Motion in Magnetic Field
9	**Mid-term Exam**
10	Ampere Law
11	Sources of Magnetic Field
12	Electromagnetic Induction
13	Inductance
14	Alternating Current
15	Electromagnetic Waves