	Course name: PHYS101 Physics I		**Department:** Electrical and Electronics Engineering				Semester 1
	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	Vectors, Kinematics, Newton's laws of motion, Work and energy, Conservation of energy, Linear momentum and its conservation, Rotation of rigid bodies about a fixed axis, Angular momentum and its conservation. Equilibrium of rigid bodies, oscillations, gravitation.
Course Objective	The objective of this course is to provide basic principles of kinematics and dynamics to help students pursuing advanced studies in engineering, to develop conceptual understanding of physical principles on mechanics, and to reason and gain skills for problem solving.
Learning Outcomes and Competences	- Describe the basic laws that govern the mechanics of the universe - Explain the concepts of vectors, energy, momentum, force, and motion that are used to describe mechanics, - Solve problems involving motion in one and two dimensions, Describe statics (equilibrium conditions) and the equilibrium of extended bodies, and the concept of torque balance, - Describe the dynamics of objects that can be treated as point sources at the level of a particle, - Extend the rules of basic mechanics of straight-line motion to circular motion, gravitational effects, fluids, vibrations, and mechanical waves, - Solve problems related to motion, gravitation, waves, and vibrations.
Textbook and /or References	**Main Textbooks:** 1. Young & Freedman, University Physics, Vol. I, (14th Ed.), Pearson 2. Jewett and Serway, Physics for Scientists and Engineers, Vol. I (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	Prof. Dr. Fahrettin Göktaş, Prof. Dr. Abdullah Yıldız, Assoc. Prof. Dr. Metin Aktaş

Weekly Schedule

Week	Subject
1	Physical Quantities, Measurement and Units
2	Vectors and Scalars
3	Motion Along a Straight Line
4	Motion in Two or Three Dimensions
5	Newton's Laws of Motion
6	Applying Newton's Laws
7	Work and Kinetic Energy
8	Potential Energy and Energy Conservation
9	**Mid-term Exam**
10	Momentum Impulse and Collisions
11	Center of Mass and Inertia
12	Rotation of Rigid Bodies
13	Dynamics of Rotational Motion
14	Gravitation
15	Periodic Motion