

# PHYSICS

1	Course Title:	PHYSICS
2	Course Code:	FZK1076
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	5.00
8	Theoretical (hour/week):	2.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	none
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. CENGİZ AKAY
15	Course Lecturers:	Dr. Öğr. Üyesi Cengiz AKAY
16	Contact information of the Course Coordinator:	cenay@uludag.edu.tr Bursa Uludağ Üniversitesi, Fizik Bölümü
17	Website:	
18	Objective of the Course:	Basic concepts and principles of physics is given clear and logical manner
19	Contribution of the Course to Professional Development:	Realizes the effect of physics on biological processes.
20	Learning Outcomes:	
	1	Systems of measurement and unit learns
	2	Information on the vector and scalar quantities can be obtained
	3	Newton's laws of motion (1 and 3), and the concept of torque learns
	4	Learn two-dimensional problem solving and use the laws of motion, Newton's 2nd law
	5	Movement in one dimension, time, speed and acceleration, and they learn the concepts of use in problem solving
	6	Movement in two dimensional, time, speed and acceleration, and they learn the concepts of use in problem solving
	7	Work, energy and power, solve physics problems by using the potential energy and energy conservation
	8	Learn the subject of linear momentum and collisions
	9	Learns the concepts of Rigid-body rotation around a fixed axis, rotational motion
	10	Angular momentum and torque
21	Course Content:	
	<b>Course Content:</b>	
Week	Theoretical	Practice

1	Length, Mass and time standards, Dimensional analysis, Conversion of units			
2	Vectors, Coordinate systems, Vector and scalar quantities, some of the properties of Vectors, Vector components and unit vectors			
3	The laws of motion, Concept of Force, Newton's first law and inertial systems, Newton's second law, The force of gravity and weight, Newton's third law, Newton's laws in some applications, The friction force			
4	Motion, Position, Velocity, Instantaneous velocity, Acceleration, Motion diagrams, Motion with constant acceleration in one dimension, free falling bodies, The kinematic equations derived from the mathematical equation			
5	Two-dimensional motion of position, Velocity and acceleration vectors, Motion in two dimensions with constant acceleration, Angular shot , Uniform circular motion, Tangential and radial acceleration, Relative velocity and relative acceleration			
6	Other applications of circular motion and Newton's laws, Newton's second law, The implementation of uniform circular motion, Non-uniform circular motion of accelerated systems			
7	General Review			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Theorem, The conservation of energy	14	2.00	28.00
9	Potential energy, Potential energy of a			
Practicals/Labs		0	0.00	0.00
Self study and preparation	forces of conservation of mechanical energy, Mechanical energy change for non-	14	4.00	56.00
Homeworks		0	0.00	0.00
Projects	conservative forces and potential energy, The energy diagram	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm Exams	and collisions, Conservation of linear momentum, Collisions in one dimension	1	30.00	30.00
Others		0	0.00	0.00
Final Exam	center of mass system of particles, The	1	40.00	40.00
Total Work Load				154.00
12	Rigid body rotation about a fixed axis, Moment of inertia, Parallel Axes Theorem,			5.13
ECTS Credit of the Course				5.00
13	Angular Momentum and Angular Momentum Conservation, Torque, Determination of the Relationship Between Torque and Angular Acceleration			
14	General Review and Problem Solutions			
22	Textbooks, References and/or Other Materials:	1. “Fundamentals of Physics”, David Halliday, Robert Resnick, (2008), Wiley. 2. “University Physics”, Hugh D. Young, Roger A. Freedman, (2007) Pearson Education. 3. “Physics for Scientists and Engineers”, Raymond A. Serway, John W., (1995) Palme.		
23	Assesment			
TERM LEARNING ACTIVITIES		NUMBE R	WEIGHT	
Midterm Exam		1	40.00	

