

# PHYSICS

1	Course Title:	PHYSICS
2	Course Code:	FZK1085
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	3.00
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. FATMA KOÇAK
15	Course Lecturers:	Doç. Dr. Sezer ERDEM, Doç Dr. Ayşegül KAHRAMAN, Dr. Öğr. Üyesi Handan ENGİN KIRIMLI, Dr. Öğr. Üyesi Fatma KOÇAK, Dr. Öğr. Üyesi Adnan KILIÇ
16	Contact information of the Course Coordinator:	uakar@uludag.edu.tr, 0 224 29 41 707, Doç. Dr. Ürkiye AKAR TARIM, Bursa Uludağ Üniversitesi Fen-Edebiyat Fakültesi, Fizik Bölümü 16059 Görükle Kampüsü Bursa, Türkiye
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:	Understanding the basic topics of Physics course, associating with current issues and explaining.
20	Learning Outcomes:	
	1	Understand and use basic concepts and principles of physics problem solving
	2	Information on the vector and scalar quantities can be obtained
	3	Learn Newton's laws of motion (1 and 3), and the concept of torque
	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:	
	Course Content:	

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			
Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Force, Kinetic energy and work-kinetic energy theorem, The conservation of energy	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study	System of Coplanar Force and non conservative	13	2.00	26.00
Homeworks		13	3.00	39.00
Projects	Nonconservative forces, The correlation	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	Impulse and momentum, Linear momentum	1	2.00	2.00
Others	Momentum, Collisions in one dimension	13	1.00	13.00
Final Exams	Collisions in two dimensions, The movement	1	2.00	2.00
Total Work Load				124.00
Total work load/ 30 hr				4 13
ECTS Credit of the Course				4.00
	Perpendicular Axes Theorem			
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
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to Success Grade	40.00	
Contribution of Final Exam to Success Grade	60.00	
Total	100.00	
Measurement and Evaluation Techniques Used in the Course	Test, classic or mixed exam	
<b>24</b>	<b>ECTS / WORK LOAD TABLE</b>	

<b>25</b>	<b>CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS</b>															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	3	2	2	3	2	2	4	2	3	3	2	2	0	0	0	0
ÖK2	3	3	2	3	2	3	3	3	2	3	4	2	0	0	0	0
ÖK3	5	5	4	3	2	5	3	4	0	3	3	3	2	0	0	0
ÖK4	5	5	5	3	2	5	3	5	3	4	4	2	0	0	0	0
ÖK5	5	5	5	3	2	5	3	4	3	4	5	2	0	0	0	0
ÖK6	5	5	5	4	2	4	5	3	2	3	5	3	0	0	0	0
ÖK7	5	5	5	3	2	3	3	3	2	3	3	3	0	0	0	0
ÖK8	4	4	4	3	2	2	3	3	2	3	4	4	0	0	0	0
ÖK9	4	4	4	3	2	3	3	2	2	4	3	4	0	0	0	0
ÖK10	4	4	4	3	2	4	3	4	3	3	5	3	0	0	0	0
<b>LO: Learning Objectives    PQ: Program Qualifications</b>																
<b>Contribution Level:</b>	<b>1 very low</b>		<b>2 low</b>		<b>3 Medium</b>		<b>4 High</b>		<b>5 Very High</b>							