



T.C.

ESKİŞEHİR OSMANGAZİ ÜNİVERSİTESİ

FACULTY OF SCIENCES

..... DEPARTMENT



## COURSE INFORMATION FORM

Course Name	Course Code
PHYSICS I	

Semester	Number of Course Hours per Week		Credit	ECTS
	Theory	Practice		
1	3	0	3	3

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
	✓			

Course Language	Course Level	Course Type
English	Undergraduate	Compulsory

<b>Prerequisite(s) if any</b>	none
<b>Objectives of the Course</b>	To provide students with basic information about Newtonian mechanics and conservation laws. Ability to define, formulate and analytically solve problems in physical systems; To improve general problem solving ability.
<b>Short Course Content</b>	Measurement; vectors; movement in one dimension; movement in two and three dimensions; particle dynamics I; particle dynamics II; work and energy; conservation of energy; dynamics of particle systems; collision; rotational kinematics and dynamics; balance of solid bodies; gravity; oscillations.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 The student recognizes and solves various problems of physical systems in practice.	PO2, PO3	1	A
2 Recognizes the importance of measurement and units.	PO1, PO6	1	A
3 Applies physical systems in daily life.	PO7, PO9, PO10	1	A
4 Recognizes the role of physics in engineering and health sciences.	PO9	1	A
5 Explains the basic laws and concepts of physics.	PO6	1	A
6			
7			
8			

\***Teaching Methods** 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

\*\***Measuring Methods** A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

<b>Main Textbook</b>	"1. Halliday, D., Resnick, R., and Walker, J. (2008). Fundamentals of Physics (8th Edition). John Wiley & Sons, Inc.2. Serway, R.A., Beichner, R.J., Physics For Scientists and Engineers with Modern Physics (2007), Harcourt College Publishers."
<b>Supporting References</b>	"1. Young, H.D, Freedman, R.A. (2006). University Physics Volume1 (12th Edition). Pearson/Addison Wesley 2.Ohanian, H.C. (1989). Physics (2nd Edition) New York: W.W. Norton & Company, Inc.3. Giancoli, D.C. (2004). Physics: Principles with Applications (6th Edition). Pearson Education Inc."
<b>Necessary Course Material</b>	

<b>Course Schedule</b>	
<b>1</b>	Measurement and Units
<b>2</b>	Vectors
<b>3</b>	One-Dimensional Motion
<b>4</b>	Two-Dimensional Motion
<b>5</b>	Newton's Laws of Motion and Applications
<b>6</b>	Work and Power
<b>7</b>	Energy
<b>8</b>	Mid-Term Exam
<b>9</b>	Energy
<b>10</b>	Momentum and Collision
<b>11</b>	Momentum and Collision
<b>12</b>	Rotational Movement
<b>13</b>	Rotational Motion Applications
<b>14</b>	Balance
<b>15</b>	Harmonic Motion
<b>16,17</b>	Final Exam

<b>Calculation of Course Workload</b>			
<b>Activities</b>	<b>Number</b>	<b>Time (Hour)</b>	<b>Total Workload (Hour)</b>
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,...)	14	1	14
Homework	5	1	5
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	1	1
Studying for Mid-Term Exam	7	3	21
Final Exam	1	2	2
Studying for Final Exam	14	1	14
<b>Total workload</b>			<b>99</b>
<b>Total workload / 30</b>			<b>99/30</b>
<b>Course ECTS Credit</b>			<b>3</b>

Evaluation	
<b>Activity Type</b>	<b>%</b>
Mid-term	50
Quiz	
Homework	
Bir öge seçin.	
Bir öge seçin.	
<b>Final Exam</b>	50
<b>Total</b>	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	To correctly understand the basic concepts, laws and relationships between physics.	5
2	To gain reasoning and problem solving skills on physics concepts and laws.	2
3	To be equipped with the mathematical tools necessary to examine the problems of theoretical and applied physics.	2
4	To acquire the skills of designing and carrying out experiments and evaluating the results of experiments individually and in team work.	2
5	To be able to solve physics problems using information technologies and develop numerical models.	2
6	To gain the ability to express the basic concepts and laws of physics in a simple and understandable way.	2
7	To gain awareness of professional and ethical responsibility.	2
8	Ability to communicate effectively verbally and in written Turkish; To gain the ability to use at least one foreign language related to one's profession.	2
9	To gain the ability to follow current developments in interdisciplinary courses and scientific activities and to improve oneself by embracing the importance of lifelong learning.	2
10	To gain the skills of acting independently, taking initiative and creativity.	2
11		
12		

LECTUTER(S)			
<b>Prepared by</b>			
<b>Signature(s)</b>			

Date:06.06.2024