



AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
MATHEMATICS AND SCIENCE EDUCATION
SCIENCE EDUCATION
SCIENCE EDUCATION MASTER
COURSE INFORMATION FORM

Course Title	General Pyhsics I								
Course Code	İFB517	Course Level		Second Cycle (Master's Degree)					
ECTS Credit	8	Workload	200 (Hours)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	Research of mechanic and motion topics								
Course Content	Mechanic and thermal characteristics in matter, Mechanic energy saving, Quantum energy								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Discussion, Case Study, Individual Study, Problem Solving								
Name of Lecturer(s)									

Assessment Methods and Criteria		
Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading	
1	Fizik, SERWAY
2	Fiziğin Temelleri
3	Temel Fizik
4	Fizik İlkeleri

Week	Weekly Detailed Course Contents	
1	Theoretical	Evrandeki kuvvetler ve deęişimleri
	Preparation Work	problem solving from Fizik, SERWAY
2	Theoretical	Mechanic and thermal characteristics in matter
	Preparation Work	problem solving from Fizik, SERWAY
3	Theoretical	Mechanic energy saving
	Preparation Work	problem solving from Fizik, SERWAY
4	Theoretical	Mechanic energy saving
	Preparation Work	problem solving from Fizik, SERWAY
5	Theoretical	Energy sorts and general saving
	Preparation Work	problem solving from Fizik, SERWAY
6	Theoretical	Energy sorts and general saving
	Preparation Work	problem solving from Fizik, SERWAY
7	Theoretical	Physical conditions, change and energy relations
	Preparation Work	problem solving from Fizik, SERWAY
8	Preparation Work	problem solving from Fizik, SERWAY
	Intermediate Exam	MIDTERM
9	Theoretical	Physical conditions, change and energy relations
	Preparation Work	problem solving from Fizik, SERWAY
10	Theoretical	Vibration motion, matter waves and energy relations
	Preparation Work	problem solving from Fizik, SERWAY
11	Theoretical	Vibration motion, matter waves and energy relations
	Preparation Work	problem solving from Fizik, SERWAY
12	Theoretical	Wave-particle conflict
	Preparation Work	problem solving from Fizik, SERWAY
13	Theoretical	Quantum energy
	Preparation Work	problem solving from Fizik, SERWAY
14	Theoretical	Quantum energy



14	Preparation Work	problem solving from Fizik, SERWAY
15	Theoretical	Mechanic-thermal-optic sensors
	Preparation Work	problem solving from Fizik, SERWAY
16	Preparation Work	problem solving from Fizik, SERWAY
	Final Exam	TERM

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Assignment	5	10	0	50
Reading	5	9	0	45
Midterm Examination	1	10	2	12
Final Examination	1	20	3	23
Total Workload (Hours)				200
[Total Workload (Hours) / 25*] = ECTS				8

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to teach core concepts of physics to students explicitly.
2	To be able to understand core concepts of physics with interesting applications.
3	To be able to understand nature laws from physical theories.
4	To be able to develop thinking and asking skills about physics.
5	To be able to understand daily life events under the physical laws.
6	To be able to understand mechanical physics and application areas.

Programme Outcomes (Science Education Master)

1	To be able to have an expert theoretical knowledge within the field of science education.
2	To be able to transfer expert knowledge gained in science education into various instructional environment.
3	To be able to integrate science education knowledge with the other disciplines and product functional knowledge
4	To be able to use information and communication technologies efficiently in conceptual learning
5	To be able to find scientific solutions to the problems in the field of science education
6	To be able to evaluate the knowledge critically in the field
7	To be able to participate in team projects in the science education field
8	To be able to adopt lifelong learning strategies to his/her studies
9	To be able to use at least one foreign language efficiently in oral and verbal communication
10	To be able to share national and international data in the field of science education
11	To be able to comprehend and evaluate science-technology-society and environment interactions
12	To be able to comprehends science under the ethical values and take account of ethical considerations
13	To be able to use scientific information in the other domains that is gained in the masters field and have the transfer skills
14	To be able to follow the current development in the science education field
15	To be able to develop strategical plans and evaluate them in the context of quality processes

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5	L6
P1	2	5	5	2	3	5
P2	5					
P3	5	3	2	2	3	
P4	2				5	
P6	2	5	3	5		
P7	2					
P8	5	5	5	3		5
P11			2	3	5	5
P13	3	2		4		

