

EASTERN MEDITERRANEAN UNIVERSITY

DEPARTMENT OF PHYSICS

COURSE CODE	PHYS101	COURSE LEVEL	First Year
COURSE TITLE	PHYSICS - I	COURSE TYPE	University Core in Physical/Natural Sciences
CREDIT VALUE	(4, 1, 0) 4	ECTS VALUE	6 credits
PREREQUISITES	None	COREQUISITES	MATH151
DURATION OF COURSE	One semester	SEMESTER AND YEAR	SPRING 2016-2017

WEBSITE	http://physics.emu.edu.tr , http://opencourses.emu.edu.tr/course/view.php?id=81
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CATALOGUE DESCRIPTION
Physical quantities and units. Vector calculus. Kinematics of motion. Newton's laws of motion and their applications. Work-energy theorem. Impulse and momentum. Rotational kinematics and dynamics. Static equilibrium.

- AIMS & OBJECTIVES**
- To introduce the fundamental concepts of motion necessary for engineering science and provide essential background for engineering students.
 - To provide students with a deeper understanding of fundamental laws and concepts of natural phenomena.
 - To improve students' problem solving skills.
 - To strengthen students' creative and systematic thinking capability.

- GENERAL LEARNING OUTCOMES (COMPETENCES)**
- On successful completion of this course, all students will have developed **knowledge** and **understanding** of:
- the concepts, theories, techniques and generalizing principles of classical mechanics;
 - the mathematical forms of the laws and physical relationships in classical mechanics and their application in solving problems;
 - diagrammatic and graphical representation of physics problems and physical data;
 - validation of theory through experiment/observation.
- On successful completion of this course, all students will have developed **their skills** in:
- correctly using symbols and units;
 - analytically/critically applying the theoretical concepts and methods of mechanics covered in the course, and formulating appropriate equations to solve problems;
 - using efficiently and effectively the textbook and other printed/electronic literature relevant to the course;
 - performing scripted experiments as a team, analyzing and evaluating the data, and writing lab reports;
 - using good scientific English for written and oral communication.
- On successful completion of this course, all students will have developed their **appreciation** of, and respect for **values and attitudes** to:
- the discipline of physics as a fundamental branch of science that provides qualitative and quantitative explanations about the physical world;
 - being an open-minded, curious, creative and reasoned skeptic;
 - being aware of ethical issues in science.

GRADING CRITERIA	
A (excellent) ~85% and above	Excellent understanding of the concepts and the principles as demonstrated by correct and accurate knowledge and application of theory/laws in solving problems. Response to problems is clear, legible, concise and accurate. Excellent performance.
B (good) ~70% and above	Better than average understanding of the concepts and the principles as demonstrated by correct and accurate knowledge and application of theory/laws in solving problems, but does not have the depth and outstanding quality of an "A". Response to problems is fairly clear, legible, but occasionally contains some inaccuracies. Performance exceeds the minimum requirements.
C (average) ~60 % and above	An average understanding of the concepts and the principles as demonstrated by reasonably correct knowledge and application of theory/laws in solving problems, but does not have any depth. Response to problems is reasonably clear, legible, but contains inaccuracies. It reveals a sufficient understanding of the material, but lacks depth in understanding and approach/application. Content and form do not go beyond basic expectations and/or display some substantial errors. Acceptable but non-exceptional performance that does not go beyond the minimum requirements.
D (barely sufficient) ~50% and above	Minimal knowledge and barely sufficient understanding of the concepts and the principles as demonstrated by approximately correct application of theory/laws in solving problems. Response to problems is not very clear and is barely legible, and contains many inaccuracies. It reveals a minimum (confused) understanding of the material, and lacks depth in understanding and approach/application. Content and form do not adequately meet the basic expectations, and/or display significant errors. Performance demonstrates severe problems in one or more areas.
F (fail) Below 50%	Work does not meet the most minimal standards. It reveals no understanding of the material, lack of basic academic skills and knowledge, or completely incomprehensible writing. Performance is not acceptable.

METHOD OF ASSESSMENT		
I.	MIDTERM	35 points (To be held in the Midterm Exam Period April 08-19, 2017)
II.	LAB	5 points Experiments (<i>Makeup for Experiments 1&2 only will be held on May 22 and 23, 2017 from 09-12AM and 2:30-4:30PM</i>)
III.	QUIZ&LAB-FINAL	10+10=20 points (To be held on Wednesday May 17, 2017 at 4:30PM)
IV.	FINAL	40 points (To be held in the Final Exam Period May 30, 2017 – June 12, 2017)
TOTAL		100 Points

IMPORTANT NOTES

Attendance:
Active participation to lectures is a must for successful completion of this course. If the student fails with D- or F and the Attendance is below 50% automatically the grade NG will be assigned.

Make-up Exam:
Students having not attended the Midterm, Quiz&Lab-Final, or Final Exams are entitled to enter the Make-up Exam to be held after the Final Exam period (time and place will be announced later).

Objections:
Graded exam papers will be available for inspection upon request. According to the regulations of the University, any objections or re-grade requests should be made **within a week following the announcement of grades.**

TEXTBOOK (REQUIRED*)
<ul style="list-style-type: none"> * David Halliday, Robert Resnick, and Jearl Walker, Principles of Physics, 10th Edition International Student Version ISBN: 978-1-118-23074-9 Raymond A. Serway and John W. Jewett, Physics for Scientists and Engineers, 9th Edition ISBN: 978-1133947271

COURSE SCHEDULE	
Week	Chapter(s) to be covered
1	Chapter 1 – Measurement (Sections 1,2,3)
2	Chapter 3 – Vectors (Sections 1,2,3)
3	Chapter 2 – Motion Along A Straight Line (Sections 1,2,3,4,5)
4	Chapter 4 – Motion in Two and Three Dimensions (Sections 1,2,3,4,5)
5	Chapter 5 – Force and Motion-I (Sections 1,2,3)
6, 7	Chapter 6 – Force and Motion-II (Sections 1,2,3)
8	Chapter 7 – Kinetic Energy and Work (Sections 1,2,3,4,5,6)
9, 10	MIDTERM
11	Chapter 8 – Potential Energy and Conservation of Energy (Sections 1,2,3,4,5)
12	Chapter 9 – Center of mass and Linear Momentum (Sections 1,2,3,4,5,6,7,8)
13	Chapter 10 – Rotation (Sections 1,2,3,4,5,6,7,8)
14	Chapter 11 – Rolling, Torque, and Angular Momentum (Sections 1,2,3,4,5,6,7,8)
15	Chapter 12 – Equilibrium and Elasticity (Sections 1,2)
16	Chapter 13 – Gravitation (Section 1)
17	FINAL

LAB POLICIES

- There will be five lab sessions throughout the semester. These will be scheduled during the time slots of the tutorial sessions. Please refer to the schedule (LAB DATES) below for the specific date of each lab session. **Note that students who do not attend at least three lab sessions will automatically get NG.**
- All the Lab scores of the fall semester of 2016-17 are transferred to the spring semester of 2016-17.** The repeating students can check their previous lab scores via the EMU student portal. A repeating student, who is satisfied with her/his former Lab score is efficaciously exempted from the Labs. But, a repeating student, who is not satisfied with her/his former Lab score will have to attend all lab sessions of PHYS101.
- All students must attend the Lab-final exam!**

LAB DATES

Group	Day/Period	Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5
01	4/1-2	02 March	16 March	30 March	27 April	11 May
02	1/5-6	27 February	13 March	27 March	24 April	08 May
03	2/7-8	28 February	14 March	28 March	25 April	09 May
04	4/1-2	09 March	23 March	06 April	04 May	18 May
05	1/3-4	27 February	13 March	27 March	24 April	08 May
06	3/1-2	01 March	15 March	29 March	26 April	10 May
07	3/1-2	08 March	22 March	05 April	03 May	17 May
08	4/5-6	02 March	16 March	30 March	27 April	11 May
09	5/7-8	03 March	17 March	31 March	28 April	12 May
10	4/5-6	TBA	16 March	30 March	27 April	11 May

ACADEMIC DISHONESTY
Cheating is copying from others or providing information, written or oral, to others. According to university by-laws, cheating is a serious academic dishonesty case punishable with disciplinary action including a letter of official warning and/or suspension from The University for up to one semester. Disciplinary action is recorded in student's file and may appear in transcripts.

PLEASE KEEP THIS COURSE SYLLABUS FOR REFERENCE AS IT CONTAINS IMPORTANT INFORMATION!