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) 4	**ECTS VALUE**	6 credits
PREREQUISITES	None	**COREQUISITES**	MATH151
DURATION OF COURSE	One semester	**SEMESTER AND YEAR**	Spring 2018-2019

WEBSITE	http://physics.emu.edu.tr, http://opencourses.emu.edu.tr/course/view.php?id=81

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CATALOGUE DESCRIPTIONŞ

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.
NG nil grade	Not enough information to assign a letter grade.

METHOD OF ASSESSMENT

Midterm1 Exam — **30** points (To be held in the First Midterm Exam Period – 11/22 April 2019)
Content: Chapter1 to Chapter6 – both chapters included)

Midterm2 Exam — **15** points (To be held in the Second Midterm Exam Period)
Content: Chapter7 to Chapter9 – both chapters included)

Final Exam — **40** points (To be held in the Final Exam Period – 10/22 June 2019)
Content: Chapter1 to Chapter13 – both chapters included)

Lab Experiments — **5** points (Each experiment being 1 point)
Content: 5 Experiments related with the content of the course, each to be done on the dates mentioned below.

Lab Exam — **10** points (To be held together with the Second Midterm Exam)
Content: Conceptual questions and/or problems related to the laboratory experiments done.

Total — **100** Points

IMPORTANT NOTES

Attendance to lectures: Active participation to lectures is a must for successful completion of this course. **If the total attendance (classes, tutorials, laboratories, and exams) of a student is below 60% the grade NG will be assigned automatically.**

Make-up Exam: Students having not attended to the Midterm Exams or Final Exam are entitled to enter the Makeup Exam, to be held after the Final Exam period (time and place will be announced). The students missing just one of the exams have the right to join the make-up exam without showing any excuse. Where as, the students missing more than one exam are asked to make an application, explaining their excuses with the official reports, to the Department of Physics and ask for the decision of the department about entering the make-up exam for more than one exam. **For any student missing more than one of the main exams (midterm1, midterm2, and final), and not having its make-up exam, grade NG will be assigned.**

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 from the announcement of grades.

Resit Exam: The students getting one of the D⁻ or F grades after the finals will have the right to sit for a re-sit exam if and only if they make their online application via portal with in the dates determined by University (28-30 June). The re-sit exam will be replacing the main exams (midterms and final) and the laboratory points (experiments and laboratory exam) will be added on it to obtain the mark for grading. The letter grading intervals will be exactly the same with the ones applied after the final exam.

TEXTBOOK (REQUIRED)

- J Walker/Halliday/ Resnick, Principles of Physics, 10th Edition International Student Version ISBN : 978-0-470-52463-3

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, 4	Chapter 2 – Motion Along A Straight Line (Sections 1,2,3,4,5) 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, 8	Chapter 6 – Force and Motion-II (Sections 1,2,3) Chapter 7 – Kinetic Energy and Work (Sections 1,2,3,4,5,6)
9, 10	**Midterms**
11,12	Chapter 8 – Potential Energy and Conservation of Energy (Sections 1,2,3,4,5) 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	**Finals**

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).
- **Students who do not attend at least three lab sessions will automatically get NG.**
- **All the experiment scores of the fall semester of 2018-19 are going to be transferred to the spring semester of 2018-19**. The repeating students can check their previous lab scores via EMU student portal. A repeating student, who is satisfied with her/his former experiment 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-exam!**

LAB DATES

Group	Day/Period	Experiment 1	Experiment 2	Experiment 3	Experiment 4	Experiment 5
01	2 / 7 - 8	26 February	12 March	26 March	30 April	14 May
02	4 / 1 - 2	28 February	14 March	28 March	02 May	16 May
03	1 / 5 - 6	25 February	11 March	25 March	29 April	13 May
04	1 / 5 - 6	04 March	18 March	01 April	06 May	20 May
05	1 / 3 - 4	25 February	11 March	25 March	29 April	13 May
06	2 / 7 - 8	05 March	19 March	02 April	07 May	21 May
07	3 / 1 - 2	27 February	13 March	27 March	08 May	22 May
08	2 / 1 - 2	26 February	12 March	26 March	30 April	14 May
09	5 / 7 - 8	01 March	15 March	29 March	03 May	17 May
10	4 / 5 - 6	28 February	14 March	28 March	02 May	16 May
11	5 / 3 - 4	-	15 March	29 March	03 May	17 May
12	4 / 7 - 8	07 March	14 March	04 April	09 May	23 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.