

EASTERN MEDITERRANEAN UNIVERSITY

DEPARTMENT OF PHYSICS

COURSE CODE	PHYS109	COURSE LEVEL	First Year
COURSE TITLE	BASIC PHYSICS	COURSE TYPE	University Core in Physical/Natural Sciences
CREDIT VALUE	(3, 0 ,0) 3	ECTS VALUE	6 credits
PREREQUISITES	None	COREQUISITES	None
DURATION OF COURSE	One semester	SEMESTER AND YEAR	Spring 2019-2020

WEBSITE	The lectures will be held online via Microsoft Teams mehmetokcan.wix.com/home & http://opencourses.emu.edu.tr/course/view.php?id=560
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INSTRUCTORS	E-mail	Office	Phone
Mehmet Okcan	mehmet.okcan@emu.edu.tr	AS 248	630-2413

CATALOGUE DESCRIPTION

This is the general Physics course designed for the physiotherapy and rehabilitation students. The course takes aims at providing an adequate background in fundamentals of general Physics for those students. The course covers a brief overview of the scientific method, measurement and units, vectors, one dimensional motion with constant acceleration, force and Newton's laws, circular motion and applications of the Newton's laws, work and kinetic energy, potential energy and conservation of energy, linear momentum and collisions, static equilibrium and elasticity, fluid mechanics, heat and the zeroth and first laws of thermodynamics.

AIMS & OBJECTIVES

The education of the physiotherapy and rehabilitation requires to understand the basic principles of Physics. This course offers the opportunity to the student to develop;

- an adequate background in fundamentals of general Physics,
- algorithmic problem solving skills through numerous conceptual and numerical problems requiring critical and analytical thinking skills in addition to a good grasp of physical concepts,
- scientific literacy and awareness to become an informed citizen and
- basic mathematical skills.

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 basic physics;
- the mathematical forms of the laws and physical relationships in basic physics 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 physics 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.
CS/CU	The students can choose to get one of CS-CU grades instead of the above-mentioned grades. D, D+, C-, C, C+, B-, B, B+, A- and A correspond to CS , F and D- correspond to CU .

METHOD OF ASSESSMENT

Midterm1 Exam	15 points (will be held on 16 May 2020 @15:00)(topics: units and unit conversions, vectors, motion in one dimension and laws of motion)
Midterm2 Exam	15 points (will be held on 30 May 2020 @15:00)(topics: work-kinetic energy-potential energy-conservation of energy, linear momentum and collisions, static equilibrium.)
Quizzes	30 points (8 quizzes will be done and best 6 will be counted)
Final Exam	40 points (will be scheduled by the Rectors Office)(topics: all topics covered are included)
Total	100 Points

If it will not be possible to arrange two midterm exams, a single midterm exam of 30 points will be done.

IMPORTANT NOTES**Attendance to lectures:**

Active participation to lectures is a must for successful completion of this course. **If the attendance of the student is below 50% automatically the grade NG will be assigned.**

Make-up Exam:

Students having not attended the Midterm Exams or Final Exam are entitled to enter the Makeup Exam (time and place will be announced). To have the right for a make-up exam, students who missed an exam must apply within 3 days after the exam they missed to the physics department secretary reporting their excuses.

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 of the announcement of grades.

TEXTBOOK (REQUIRED)

- J Walker/Halliday/ Resnick, Principles of Physics, 10th Edition International Student Version ISBN : 978-0-470-52463-3
- J. W. Jewett, Jr. and R. A. Serway, Physics for Scientists and Engineers with Modern Physics.

COURSE SCHEDULE

Date	Chapter	Section
21 February	Introduction - Measurement and Units	1 (1, 5)
28 February	Vectors	3 (1, 2, 3, 4)
06 March	One Dimensional Motion with Constant Acceleration	2 (1, 3, 5, 6)
03 April	Force and Newton's Laws	5 (1, 2, 3, 4, 5, 6, 7)
10 April	Work, Kinetic Energy, Potential Energy and Conservation of Energy	7 (1, 2, 4, 5) & 8 (1, 4)
17 April	Linear Momentum and Collisions	9 (1, 2, 3, 4, 5)
24 April	Static Equilibrium and Elasticity	12 (1, 2, 3, 4)
08 May	Heat and Zeroth and First Laws of Thermodynamics	15 (1, 2, 3, 4, 5)
15 May	Fluid Mechanics	20 (1, 2, 3)
22 May	Repeat	

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!