UNIVERSITETI /UNIVERSITY
"ISA BOLETINI"
MITROVICË

Basic information about subject – 111 - ENGINEERING PHYSICS	
Academic unit	Faculty of Mechanical and Computer Engineering
Program	**Economics engineering**
Title of subject:	**ENGINEERING PHYSICS**
Level:	Bachelor degree
Matter status:	Mandatory
Semester	II
Code	111EE
Number of hours per week:	2+2
Value in credits - ECTS:	5
The teacher of the course:	Ass. Prof. Dr. Labinot Kastrati
Course description	Knowledge of the fundamental laws of physics, the study of physical quantities and experimental measurement.Presentation of modern physics concepts such as atomic and molecular physics, nuclear and elementary particles. The study of physical concepts which find application in the areas of mechanical engineering.
The goals of matter:	Enabling students to select and apply theoretical and experimental methods of physics to Mechanical Engineering and Mechatronics
Learning outcomes:	Students will acquire: After the end of this course the student will be able to: use theoretical and experimental methods of modern physics which can be applayed in mechanical engineering. To monitor and determine the quality of the technological process in technique, based on knowledge of the phenomena, methods, laws, theories, etc.., which are the subject of physics, and technique courses in other science subjects. Finally, the student can be see from many examples, that there is a correlation of physics and engineering, and from this the importance of physics as a subject.

Contribution in student load (that must correspond with the results of the achievement of the student)			
Activity	**hour**	**day/weak**	**total**
lectures	2	15	30
Theoretical exercises / laboratory	2	15	30
practical work	1	6	6
Contacts with the teacher / consultations	0.25	12	3
exercises in the terrain	0	0	0
Colloquiums, seminars	3	3	9
Homework	1	14	14
Student self-study time (in the library or at home)	1	5	5
Final Preparation for the exam	5	4	20
Time spent on assessment (test, quiz, final exam)	2	4	8
Projects, presentations, etc.	0	0	0
Total			125

Methodology of teaching:	Lectures through presentations, exercises, assignments, examples, seminar papers, tests, discussions etc.

The ratio between theoretical and practical study	*The theoretical part* (%)	The practical part (%)
	50%	50%
Literature:	[1].Dr. Skender H. Skenderi & Dr. Rashit Maliqi, Fizika për studentët e fakulteteve teknike, Prishtinë, 2022. [2]. Dr. Skender H. Skenderi & Dr. Rashit Maliqi, Përmbledhje detyrash nga Fizika, Prishtinë. [3]. Dr. Skender H. Skenderi & Dr. Rashit Maliqi, Ushtrime interaktive dhe laboratorike nga Fizika, Prishtinë	

Designed plan of study:	
week	Lecture to be held
First week:	Introduction; moving elements . uniformly motion circular motion and relative motion
Second week:	Force, composition of komplanar forces,. the first, second, and third law in mechanics, the law of conservation of quantity of motion, impulse of force, the force of gravation, weight, specific weight.
Third week:	Moment of inertia, Steiner's theorem, conservation of momentum
Week Four:	Mechanical work translative movement and rotation,
Week five:	Power in translative and rotational montion
Week six:	Mechanical energy, conservation of energy
Week sevenr:	Newton's law of gravity, Kepler's laws, the motion of artificial satellites.
Week eight:	Mass and impulse of the particle in dependence of velocity, the law of proportionality beetwen mass and energy, the connection between energy and relativistic impulse
Week nine:	Mechanical oscilacions and waves
Week ten:	Optics, geometrical optics . Physical optics. Quantum Optics
Week eleven:	Spectroscopy, Fundamentals of atomic physics, the structure of the atom
Week twelve:	Laser.
Week thirteen:	Fundamentals of nuclear physics. Nuclear strukture
Week Fourteen:	Radioactivity
Week fifteen:	Radioactive phenomena. Nuclear energy nuclear reactions.

The way of passing the exam:	Testing during the year, seminars, and final exam
Additional literature:	[1] Halliday, Resnik, Walker. Fundamentals of physics, John Wiley and Sons, Inc. 2003

Academic policies	**Criteria for regular attendance and rules of etiquette during the organization of the lesson are set.** **Computer work:** Graphic works, I have to draw and write with a computer. In the works it is obligatory to respect the criteria for both the visual and the content aspect of the required works. **Ethics in teaching:** Graphic works should be personal works of each student. There will be no tolerance for copying, "borrowing" from the Internet or any other material. The same or similar works will have negative evaluations in the final evaluation of the student. **Time:** In agreement with the students, the deadlines for submitting works will be determined. There will be no tolerance for delays in the submission of works. Failure to arrive at the time when the assignment is explained does not justify the student for not submitting the paper. The deadline will be given earlier. If you are going to travel abroad, then you need to submit the paperwork in advance. The student has the right to request a consultation with the professor whenever he / she deems it reasonable and necessary for the performance of his / her work. **Rules of conduct and academic policies:** ● active participation of students in lectures o participation in discussion, comments and free expression of opinion, opinion and academic position (with arguments) ● Mandatory independent work and use of additional sources of information (various scientific websites, scientific journals, conference proceedings, etc.) ● Respecting lecture schedules without compromising academic freedom (silent cell phones) of respecting the word, thoughts and ideas of colleagues, ● It is not allowed to arrive late and leave without a valid reason from the lecture, test or exam o preparation and holding of relevant lectures, (obligation of the teacher). ● if the student is absent more than four times without reason in lectures and exercises, does not receive the signature for attendance. o the student cannot take the exam without an official document, if the student is dissatisfied with the grade obtained, has the right to complain in writing to the dean, within two working days after the announcement of the results, UMIB Statute o if the student does not follow the rules, in the exam uses tools that are not allowed, it is evaluated with a negative grade.

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Mitrovica; 15/04/2023 Prof Ass Dr. Labinot Kastrati