Identification	**Subject**	PHSC 111 Physics 1 - 6 ECTS credits	
	Department	Physics and Electronics	
	Program	Undergraduate	
	Term	Spring 2022	
	Instructor	**Assoc. Prof. Dr. Vusala Eminova**	
	E-mail:	vusaleeminova84@gmail.com	
	Phone:	050 724 14 17	
	Classroom/hours	10:00-15:00	
	Office hours		
Prerequisites	no		
Language	English		
Compulsory/Elective	Compulsory		
Description	This course covers the principles of mechanics, heat, fluids, oscillations, waves and sound. Emphasis is on conceptual development and numerical problem solving. A detailed schedule of topics can be found later in this syllabus.		
Required textbooks and course materials	**Fundamentals of Physics Extended 8th Edition by Halliday, Resnick,** https://drive.google.com/folderview?id=0B2q6eS6QaN-pZXRDQ3VCZ0xQYmM&usp=sharing- **Go to this page to download textbook**		
Course website	**Class assignments**: www.edmodo.com		
Course outline	This course of physics I provide a conceptually-based exposure to the fundamental principles and processes of the physical world. Lectures include basic concepts of motion, forces, energy, heat, Newton's laws, fluids thermodynamics, thermal physics, work and energy, power. Upon completion, students should be able to describe examples and applications of the principles studied.		
Course objectives	This course will help students to receive idea of the main physical phenomena and the major physical laws. The course of the general physics will give the chance to students to study motion laws, movement of a solid body, surface phenomena, will be able to analyze the types of motion, Newton's laws. At the end of course the students will be able to understand fundamentals of classical physics, to solve physical problems of mechanics and molecular physics.		
Learning outcomes	• What students should know by the end of the course: • Students should describe the types of motion, such as motion in one dimension, projectile motion, circular motion and also differentiate each of them. • Students should apply Newton's Laws, can analyzing contact and field forces, also should know about simple harmonic motion, pendulum, temperature, pressure, Archimedes principle, Buoyant force, work and energy, the types of energy, fluids dynamics. • Students should solve each problem relating to these topics and answer the questions easily and correctly, path the quizzes and midterm or final exam successfully.		
Teaching methods	**Lecture**		+
	Seminar		+
	Assisted work		
	Assisted lab work		
	Others		
Evaluation	**Methods**	**Date/deadlines**	**Percentage (%)**
	Midterm Exam		30
	Class Participation and Attendance	At each lesson	5
	Quizzes	During the semester, total 2 quizzes, for each 10 point	20
	Activity		10
	Final Exam		35
	Total		100

Policy	• NO CELL PHONES are allowed during lecture and lab sessions. PLEASEturn them off before lecture! (Not silent or vibrating mode) • No late assignments will be accepted without prior arrangement with the instructor for acceptable excuses. Medical and family emergency will be considered on case-by-case basis. • No late homework will be accepted. Homework is to be completed on an individual basis. Students may discuss homework with classmates, butstudents are responsible for your own work. If students have consulted

	classmates, please note the individuals name on the top of students' assignment. • Quizzes may be given unannounced throughout the term and will count as onehomework. There will be no make-up quizzes. • No make-up exams. If students miss an exam, a zero score will beassigned to the missed exam. • If students should miss class due to personal emergency or medical reasons, please notify the instructor by email immediately. A doctor's note will be required for make-up work. • Students are responsible for completing the reading assigned from the textbook related to the covered topics and for checking email regularly for important information and announcements related to the course. • University policy on academic honesty concerning exams and individual work will be strictly enforced. • BE ONTIME!

Tentative Schedule

Week	Date/Day (Tentative)	Topics	Textbook/Assignments
1	14.02.2022 16.02.2022	Measurement and Vectors. **Short description:**Units of measure. Concepts of vectors and action with them. Scalar and vectorial quantities.	1. Fundamentals of Physics by Halliday, Chapter 3. 2. Handnotes given by teacher
2	21.02.2022 23.02.2022	What is physics? Motion in One Dimension. **Short description:** Information on a physical concept - matter. Application of standards in physics. Units of measure. Concepts of vectors and action with them.	1. Fundamentals of Physics by Halliday, Chapter 2. 2. Handnotes given by teacher
3	28.02.2022 02.03.2022	Projectile motion. **Short description:** Description of circular motion.	1. Fundamentals of Physics by Halliday, Chapter 4. 3. Handnotes given by teacher
4	07.03.2022 09.03.2022	Concept of force. Newton's Laws. **Short description:** Concept of force. Types of force and representation of force. Use of force. Concept of the center of gravity. Methods of finding of the center of gravity. Types of stability.	1. Fundamentals of Physics by Halliday, Chapter 5. 3. Handnotes given by teacher
5	14.03.2022 16.03.2022	Work and Power. Work Done by a Constant Force. **Short description:** Work Done by a Varying Force. Kinetic Energy and the Work–Kinetic Energy Theorem. The Nonisolated System—Conservation of Energy. Power.	1. Fundamentals of Physics by Halliday, Chapter 7. 3. Handnotes given by teacher
6	21.03.2022 23.03.2022	Potential Energy. Potential Energy of a System **Short description:** The Isolated System Conservation of Mechanical Energy. Conservative and Nonconservative Forces. Changes in Mechanical. Energy for Nonconservative Forces. Conservative Forces	1. Fundamentals of Physics by Halliday, Chapter 8. 2. Handnotes given by teacher

7	28.03.2022 30.03.2022	Linear momentum. Impulse. **Short description:** Conservation of momentum.Elastic and inelastic collision.	1. Fundamentals of Physics by Halliday, Chapter 9. 3. Handnotes given by teacher
8	04.04.2022 06.03.2022	Midterm Exam Problem solving	
9	11.04.2022 13.04.2022	Simple harmonic motion **Short description:** Simple harmonic motion. The simple pendulum. Waves. Types of waves. Period, frequency and wave speed. Wave equations. Wave intensity.	1. Fundamentals of Physics by Halliday, Chapter 13. 3. Handnotes given by teacher
10	18.04.2022 20.04.2022	Quiz Problem solving	
11	25.04.2022 27.04.2022	Newton′s Law of Universal Gravitation. Keepler′s Law. **Short description:** Measuring the Gravitational Constant. Gravitational force. Keepler′s Law and the motion of planets. The Gravitational field.	1. Fundamentals of Physics by Halliday, Chapter 14. 3. Handnotes given by teacher
12	02.05.2022 04.05.2022	Pressure. Buoyant Forces and Archimedes's Principle **Short description:** Information about pressure in liquids and gases. Concept of buoyancy. Concept and application of the law of Archimedes.	1. Fundamentals of Physics by Halliday, Chapter 15. 3. Handnotes given by teacher
13	09.05.2022 11.05.2022	Fluid Dynamics. Bernoulli's Equation . **Short description:** Fluid Dynamics. Bernoulli's Equation .Other Applications of Fluid Dynamics.	1. Fundamentals of Physics by Halliday, Chapter 15. 3. Handnotes given by teacher
14	16.05.2022 18.05.2022	Wave motion. **Short description:** Propogation of a distutbance. Sinusoidal Waves. The speed of waves. Reflection and transmission. The linear wave equation.	1. Fundamentals of Physics by Halliday, Chapter 16. 3. Handnotes given by teacher
15	23.02.2022 25.02.2022	Kinetic theory of ideal gases. **Short description:** Kinetic theory of ideal gases. Barometric medium. Law of Boltzmann. The Celsius, Fahrenheit, and Kelvin Temperature Scales.	1. Fundamentals of Physics by Halliday, Chapter 21. 3. Handnotes given by teacher
		Final Exam	