Course title: Physics

Course basic information	
Academic unit:	**Faculty of Civil Engineering**
Course name:	**Physics**
Level:	**Bachelor**
Course status:	**Mandatory**
Year of study:	**1 st**
Number of hours per week:	**2+2**
ECTS Credits:	**6**
Time/Venue:	**According to the time table**
Course teacher:	**Prof.Dr.Skender Ahmeti**
Contact details:	**Email: skender.ahmeti@uni-pr.edu www.fn.uni-pr.edu**
Course description	Physics and other sciences. Research methods. Physical sizes and units. Basic units in physics. Mechanics. Kinematics. Elements of motion. Subject point. Position vector, displacement and path. Time and time interval. Instant speed and acceleration. The movement of the subject point. Uniform rectilinear motion. Smoothly accelerated movement. Uniformly slow motion. Shells. Laws of motion - Newton's laws the rotation of rigid bodies. Work and mechanical energy. Gravity. The law of gravity. Mechanical vibrations. Mechanical waves. Sound waves. Optics. Geometric optics. The reflection of light. Refraction of light on flat surfaces. Radiation. Atomic spectrum. Atom structure. Basics of nuclear physics.
Course objectives:	The aims of this course are: The course aims to prepare students to understand the basic concepts of physics as well as learn methods on how to explore natural phenomena, including observation, hypotheses, measurements and data collection, experimentation, and the use of mathematics in physics. To guide students in the basic laws of physics as well as applications of scientific data, concepts and models for use in physics and the real world. To equip students with problem-solving skills through an approach that describes physical phenomena using relevant mathematical models and formulas. Instruct students to competently use laboratory equipment to collect and record data, apply appropriate mathematical models and perform required calculations, and present the results obtained as an application of a measurable observation of the physical world.
Learning outcomes:	At the end of this course the student should be able to: Identify data of various physics problems starting from research methods, such as. hypotheses, experiments and mathematical methods. The student will also be provided with knowledge of mechanics, motion dynamics and laws of motion. Wave and oscillating phenomena, atomic and nuclear physics and optics.

Student workload (Consistent with the learning outcomes)			
Activity	**Hours**	**Day/Week**	**Total**
Lectures	2	15	30
Theoretical/Lab work	2	15	30
Practical work			
Contacts hours with teacher Consultations during office hours			
Field work	1	15	15
Colloquium, seminars	5	1	5
Homework	1	15	15
Self-study time (in the library or at home)	2	15	30
Final exam reparation	1	15	15
Evaluations (tests, quizzes, final exam)	5	1	5
Projects, presentations, etc.	5	1	5
Total			**150**

Teaching methodology:	Lectures, computer exercises, seminars, discussions.
Evaluation methods:	The assessment should set percentage of each rating intermedier partial or final assessment. One of the methods of evaluation will was as follows: The first evaluation: 25% Homework or other commitments 10% Regular attendance 10% Final exam 30% Total 100%
Literature	
Basic literature:	[1].S.Skenderi, R. Maliqi, Fizika për studentët e fakulteteve teknike, 2005, Prishtine
Additional literature:	[2]. I. Serway, Physics for scientistis and engineerings, Thomson Books, 2004 [3].D. Halliday, R.Rechnick, etc, Fundamentals of Physics, Jon Wiley &Sons, 2006

Course plan:	
Week	**Title of the lecture**
Week 1:	Knowing the syllabus of the subject and physics and measurements
Week 2:	Mechanical movements and relativity
Week 3:	Newton's law
Week 4:	Work and kinetic energy
Week 5:	Potential energy and energy conservation law.
Week 6:	Theory of Gravity
Week 7:	Fluid properties
Week 8:	Temperature and heat
Week 9:	Ideal gas laws
Week 10:	Thermodynamics
Week 11:	Oscillations and waves
Week 12:	Electric and magnetic fields
Week 13:	Optics light. Mirror and Lents
Week 14:	Interference, diffraction and polarization of light
Week 15:	Quantum physics

Academic policies and rules of civility:
Keeping quiet during class, turning off cell phones, entering the room in time, respecting individual work, no cheating in exams, etc.