

Study program: Environmental Protection			
Course title: Physics			
Professor/assistant: Violeta Stojanović			
Type of course: compulsory			
ECTS credits: 6			
Pre-requisites: -			
Aims of the course: Prepare students to: introduce the major physical phenomena and laws, major methods of scientific opinion, and help them to form a scientific view of the world and advancement of modern technology.			
Learning outcomes: Student will be able to: understand correctly the laws, principles and categories which enable the proper way of scientific research and better definition of physical reality.			
Syllabus			
<u>Theoretical part</u> An overview of the theory of structure of substance. Molecules and atoms: size and mass of the molecules, molecular forces, molecular movements, internal energy, physical states of substance. Heat and thermodynamics: thermal expansion of solids and liquids, molecular – kinetic theory, gases, laws, the equation of ideal and real gas states, thermo-dynamical processes, laws of thermodynamics, critical points, triple point, heat conversion. Oscillations and waves: genesis, types, basic elements, propagation rate, equation, sound, intensity, level, acoustic room, noise. Photometry: photometric units and the laws of light, photometers. Geometrical optics: laws of reflection and refraction of light, dispersion, reflection, lens, lens image forming, equation of thin lenses, enlargement, magnifying glass, microscope. Physical optics: interference, diffraction and light polarization.			
<u>Practical part</u> Computational exercises. Laboratory exercises.			
Literature			
<ol style="list-style-type: none"> 1. Jakšić M., Stojanović V., <i>Fizika</i>, Nis,2009. 2. Jakšić M., Stojanović V., <i>Fizika</i>, VTS Nis,2003. 3. Jakšić M., Stojanović V., <i>Zbirka zadataka iz fizike</i>, VTS Nis,2002. 4. Jakšić M., Stojanović V., <i>Praktikum za vežbe iz fizike</i>, Nis, in 1995. 			
Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 1	Research work:1	
Teaching methods Combination of interactive approach with practical problem solving.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	-
practical training	20	oral exam	40
colloquium(s)/seminar papers	30		
Sum	60	Sum	40