

Study program: : Industrial Engineering			
Course title: Physics			
Professor/assistant: MSc.,Violeta Stojanović			
Type of course: compulsory			
ECTS credits:6			
Pre-requisites:			
Aims of the course: Introduce students to the major physical phenomena and laws, major methods of scientific opinion, and help them form the scientific view of the world and the advancement of modern technology.			
Learning outcomes: After taking the exam, students are trained 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, thermodynamical 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 laws of the lights, 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 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, 1995.			
Number of active classes			Other forms of teaching:
Lectures: 30	Practical classes: 30	Research work:	
Teaching methods Combined,interactive approachwith 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, grade7 from 61-70 points, grade8 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	40
practical training	20	oral exam	
colloquium(s)/seminar papers	30		
Sum	60	Sum	40