

## Information sheet for the course Physics in solved problems

<b>University:</b> <i>Alexander Dubček University of Trenčín</i>					
<b>Faculty:</b> <i>Faculty of special technology</i>					
<b>Course unit code:</b> <i>SaOA/B/4-10/d</i>			<b>Course unit title:</b> <i>Physics in solved problems</i>		
<b>Type of course unit:</b> <i>optional</i>					
<b>Planned types, learning activities and teaching methods:</b> <i>Two hours per week</i>					
<b>Number of credits:</b> <i>1</i>					
<b>Recommended semester:</b> <i>2<sup>nd</sup> semester in the 1<sup>st</sup> year (full-time)</i> <i>2<sup>nd</sup> semester in the 1<sup>st</sup> year (part-time)</i>					
<b>Degree of study:</b> <i>I. (bachelor)</i>					
<b>Course prerequisites:</b> <i>none</i>					
<b>Student obligation:</b> <i>Final score – credit: 100% active participation in the exercises, demonstrate basic knowledge during the semester, transmit the independently solved semester homework on time</i>					
<b>Learning outcomes of the course unit:</b> <i>Provide students with a greater knowledge of the courses „College Physics I. and II.“.</i>					
<b>Course contents:</b> <i>Kinematics and Dynamics of fixed point. Rectilinear and curvilinear motion. Newton’s laws – equation of motion. Mechanics of mass points, impulse. Conservation of momentum and energy. Gravitational field. Mechanics of rigid body. Statics. Simple harmonic oscillator. Damped and driven oscillations. Mechanical wave. Wave function and wave equation. The electric field – Coulomb’s law, electric potential. Capacitor. Electrokinetics. Ohm’s law and Kirchhoff’s laws. Electrical circuit. Work and power of electric current. Magnetic field. Biot-Savart’s law. Lorent’s force. Amper’s law. Electromagnetism, Faraday’s law.</i>					
<b>Recommended of required reading:</b> <i>KOŠINA S. a kol.: Fyzika I – Zbierka príkladov, Skriptum CHTF STU, ALFA, 1987, 1988.</i> <i>KALUŽA J., ZEMAN M.: 500 riešených úloh z fyziky. Alfa, Bratislava 1973.</i>					
<b>Language:</b> <i>Slovak</i>					
<b>Remarks:</b> <i>The course is optional.</i>					
<b>Evaluation history</b> <i>Total number of students being evaluated: 0</i>					
A	B	C	D	E	FX
<b>Lecturers:</b> <i>PaedDr. Erika Hujová, PhD.</i>					
<b>Last modification:</b> <i>15.4.2014</i>					
<b>Supervisor:</b> <i>prof. Ing. Alexej Chovanec, CSc., guarantee of the study program “Vehicles Maintenance and Repair”.</i>					