

**Information sheet for the course**  
**Interior ballistics**

<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>ŠST/B/1-45/d</i>			<b>Course unit title:</b> <i>Interior ballistics</i>		
<b>Type of course unit:</b> <i>compulsory</i>					
<b>Planned types, learning activities and teaching methods:</b> <i>2 hours of lectures per week, 1 hour of practice per week</i>					
<b>Number of credits:</b> 5					
<b>Recommended semester:</b> <i>1<sup>st</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>II. (engineer)</i>					
<b>Course prerequisites:</b> <i>none</i>					
<b>Assessment methods:</b> <i>100% participation in exercises, fulfilling the objectives set exercises, min. 60% attendance at lectures, properly semester work, demonstrate knowledge of subject content in written and oral examination. Final evaluation - oral exam.</i>					
<b>Learning outcomes of the course unit:</b> <i>The student has knowledge of cross-department focusing on application usage at a level corresponding to the current state of knowledge, a broad knowledge and understanding in a specialized field, provide a comprehensive overview of the basic internal ballistics, which is essential for the successful management of specialized subjects related to the construction of special equipment.</i>					
<b>Course contents:</b> <i>Subject and importance of internal ballistics. Basic concepts and principles used. Equation of time, propellant charges and recoil parts. The equation of state. Conservation of mass and reactive power nozzle. The law of conservation of energy. Theory burning of propellant. Physical-chemical characteristics of the propellant. The thermodynamic model of internal ballistics of the gun. Method prof. V. Je. Sluchockij. Composite fillings, recoilless rifle, Davis' gun, bicameral system, gas sampling, expansion devices. Theory repairs. Principle ballistic design.</i>					
<b>Recommended of required reading:</b> <i>ŠTRBA, J. - PIVKO, Š.: The internal ballistics of barrel weapons. TnUAD 2012 (In Slovak)</i> <i>PLÍHAL, B. - BEER, S.: The internal ballistics of barrel weapons. VA Brno 1999 (In Czech)</i> <i>KADAŇKA, V.: The internal ballistics of barrel weapons. NV, Praha 1985 (In Czech)</i>					
<b>Language:</b> <i>Slovak</i>					
<b>Remarks:</b> <i>Course is compulsory</i>					
<b>Evaluation:</b> <i>Total number of students being evaluated: 73</i>					
A	B	C	D	E	FX
17,81	10,96	13,70	10,96	39,73	6,85
<b>Lecturers:</b> <i>Assoc.prof. Ing. Lubomír Uherik, CSc. - lecturer</i> <i>Ing. Ján Štrba, Ph.D. - instructor</i>					
<b>Last modification:</b> <i>15.4.2014</i>					
<b>Supervisor:</b> <i>prof. Ing. Jiří Balla, CSc., the guarantee of the "Special Mechanical Engineering Technology"</i>					