

## Information sheet for the course Finite Element Method

<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/I/4-58/d</i>			<b>Course unit title:</b> <i>Finite Element Method</i>		
<b>Type of course unit:</b> <i>compulsory</i>					
<b>Planned types, learning activities and teaching methods:</b> <i>1 lecture hour and 1 hours seminar per week face to face</i>					
<b>Number of credits:</b> 2					
<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>II. (engineer)</i>					
<b>Course prerequisites:</b> <i>none</i>					
<b>Assessment methods:</b> <i>Continuous assessment: 100% participation in exercises, at least 60% attendance at lectures, processing and submit of semester assignments.</i> <i>Final assessment: test in a written test.</i> <i>Point-rated evaluation criteria from a total of 100 points: (E) ≥ 56 points, (D) ≥ 65 points, (C) ≥ 74 points, (B) ≥ 83 points, (A) ≥ 92 points.</i>					
<b>Learning outcomes of the course unit:</b> <i>The student can analyze factual knowledge, principles and processes, students understand the technical terminology and fundamental relationships of FEM in a broad context. Implements computational analysis of different types of elements and can use theoretical knowledge in complex tasks in a larger context.</i>					
<b>Course contents:</b> <i>Fundamentals of the finite element method, the basic relations and basic concepts. Variational principles. Basis deformation method. Types of elements and their application in solving the two-dimensional and three-dimensional tasks. Modeling, simulation and evaluation of strength calculations of parts and assemblies. Optimization of structural design based on the results of stress analysis. Addressing the tasks of rigid bodies mechanics - linear statics, heat conduction, dynamics and hydrodynamics.</i>					
<b>Recommended of required reading:</b> <i>ŽMINDÁK, M.- GRAJCIAR, I.- NOZDROVICKÝ, J.: Modelovanie a výpočty v metóde konečných prvkov. Diel I- Modelovanie v ANSYS. VTS ŽU. Žilina. 2004.</i> <i>KAUKIČ, M. -- ŽMINDÁK, M. -- KOMPIŠ, V. Počítačové metódy v mechanike: Lineárna analýza, 1. vyd. Žilina: Žilinská univerzita, 1998. 152 s.</i>					
<b>Language:</b> <i>Slovak</i>					
<b>Remarks:</b> <i>The subject is provided in the summer semester in the first year of full-time study. Compulsory subject.</i>					
<b>Evuation history</b> <i>Total number of student being evaluated: 278</i>					
A	B	C	D	E	FX
27,18	41,21	21,03	2,8	8,50	0,00
<b>Lectures:</b> <i>prof. Ing. Jozef Turza, CSc. - lecturer</i> <i>Ing. Lenka Rybičková, PhD. - assistant instructor</i>					
<b>Last modification:</b> 15.4.2014					
<b>Supervisor:</b> <i>prof. Ing. Jirí Balla, CSc., guarantee of the study program "Special Mechanical Engineering Technology".</i>					