

Information sheet for the course Computer Modelling in Materials Engineering II

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>					
Course unit code: <i>MI-I-P-9</i>			Course unit title: <i>Computer Modelling in Materials Engineering II</i>		
Type of course unit: <i>compulsory</i>					
Planned types, learning activities and teaching methods: <i>Lecture: 1 hours weekly/13 hours per semester of study; face to face</i> <i>Seminar: 0</i> <i>Laboratory tutorial: 3 hours weekly/39hours per semester of study; face to face</i>					
Number of credits: <i>5</i>					
Recommended semester: <i>the 2nd semester in the 1st year of the full-time form of study,</i> <i>the 2nd semester in the 1st year of the part-time form of study.</i>					
Degree of study: <i>the 2nd degree of study (Engineering degree)</i>					
Course prerequisites: <i>none</i>					
Assessment methods: <i>To accomplish the given subject, student is obliged to be present at the lessons with the reference to specifications introduced in the study rules for the given study programme. He/she is also obliged to prepare and defend his/her semestral or terminal work which involves the solution of one numerical task based on modelling of material structure which is under the static or dynamic loading and furthermore, it is important to point out that the given task is solved by help of finite element program.</i>					
Learning outcomes of the course unit: <i>Student has acquired and is familiar with practical aspects of computer modelling based on finite element method while the given modelling is focused on non-linear statics and dynamics of constructions as well as structures of materials and student has improved his/her knowledge relating to the creation of the computational models and solution of tasks with the focus on the dynamic loading, heat transfer or modal analysis, etc.</i>					
Course contents: <i>Practical exercises involving the creation of the computer models and solution of tasks in the field of dynamic loading, heat flow, heat transfer or transition, forced vibrations as well as constructions with bumped or absorbed vibrations.</i>					
Recommended or required literature: <i>Manual books relating to MARC</i> <i>IVANČO, V. - KUBÍN, K. - KOSTOLNÝ, K.: Metóda konečných prvkov I. Košice, Elfa, 1994</i> <i>BITNÁR, Z.: Metoda konečných prvků I a II, ČVUT Praha, 1992</i> <i>BENČA, Š.: Aplikovaná pružnosť I: Metóda konečných prvkov. STU Bratislava, 1989</i> <i>COOK, R. D.: Concepts and Applications of FEM Analysis. John Wiley and Sons, 1989, Third Edition</i>					
Language: <i>Slovak</i>					
Remarks: <i>—</i>					
Evaluation history: /Grading system/					
A	B	C	D	E	FX
<i>Excellent</i>	<i>Laudable</i>	<i>Good</i>	<i>Accepted results</i>	<i>Pass</i>	<i>Fail</i>
Lecturers: <i>prof. Ing. Ján Vavro, PhD., doc. Ing. Ján Vavro, PhD.</i>					
Last modification: <i>31.03.2014</i>					
Supervisor: <i>prof. Ing. Darina Ondrušová, PhD.</i>					