

Information sheet for the course Planned Experiment

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>					
Course unit code: <i>MI-I-V-13</i>			Course unit title: <i>Planned Experiment</i>		
Type of course unit: <i>optional</i>					
Planned types, learning activities and teaching methods:					
<i>Lecture: 2 hours weekly/26 hours per semester of study; face to face</i>					
<i>Seminar:0</i>					
<i>Laboratory tutorial:0</i>					
Number of credits: <i>2</i>					
Recommended semester: <i>3rd semester in the 1st year full-time</i> <i>3rd semester in the 2nd year part-time</i>					
Degree of study: <i>the 2nd degree of study (Engineer's degree)</i>					
Course prerequisites: <i>none</i>					
Assessment methods:					
<i>Lecturers</i>					
Learning outcomes of the course unit:					
<i>Students master the basic concepts and procedures for planning, designing, processing and evaluation of experiments in particular by means of appropriate computer programs</i>					
Course contents:					
<i>The basic concepts of the theory of experiments and statistics. What is experiment, experiment planning, the analysis, processing and evaluation, types of experiments Types of distribution for discrete and continuous random variables. Measurement error. The point estimate of the parameter. Interval estimation of parameter. Measurement uncertainty. Testing statistical hypotheses. Reliability testing. Statistical analysis of multidimensional data. Analysis of variance. One and two-factor analysis of variance. Linear regression models. Correlation - correlation models, the correlation coefficients. Non-linear regression models. Conventional interpolation methods. Approximation of functions. Approximation tabular dependencies. Numerical smoothing.</i>					
Recommended of required reading:					
<i>Ronald A. Fisher: The Design of Experiments (1935).</i>					
<i>MELOUN, M. – MILITKÝ, J.: Statistická analýza experimentálnich dat. Académia, Praha, 2004. 953 s. ISBN 80-200-1254-0.</i>					
<i>MELOUN, M. – MILITKÝ, J.: Kompendium statistického zpracování dat. Académia, Praha, 2004. 768 s.</i>					
<i>BREYFOGLE, F., W.: Statistical Methods for Testing, Development, and Manufacturing. John Willey&Sons, New York, USA, 1992. 516 s. ISBN 0-471-54035-8.</i>					
Language: <i>Slovak</i>					
Remarks:					
Evaluation history:					
A	B	C	D	E	FX
Lecturers: <i>doc. RNDr. Ladislav Matejíčka, CSc.</i>					
Last modification: <i>31.03.2014</i>					
Supervisor: <i>prof. Ing. Darina Ondrušová, PhD.</i>					

