

Information sheet for the course Applied Mathematics

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of special technology</i>					
Course unit code: <i>ŠST/I/4-06/d</i>			Course unit title: <i>Applied Mathematics</i>		
Type of course unit: <i>compulsory</i>					
Planned types, learning activities and teaching methods: <i>Lectures 2 hours per week / exercise one hour a week face to face</i>					
Number of credits: 3					
Recommended semester: <i>1st semester in the 1st year (full-time)</i> <i>1st semester in the 1st year (part-time)</i>					
Degree of study: <i>II. (engineer)</i>					
Course prerequisites: <i>none</i>					
Assessment methods: <i>100% participation in exercises, fulfilling the objectives set exercises, min. 60% attendance at lectures, special credit písomiek and achieve at least 60% of the total score, demonstrate knowledge of subject content in written and oral examination.</i>					
Learning outcomes of the course unit: <i>The student can analyze factual knowledge, we obtain a comprehensive overview of the system and operational analysis utilized in engineering practice, including solutions of problems of mathematical programming, transportation problem and network analysis.</i>					
Course contents: <i>The basic scheme and the definition of management, decision making, optimal management. Review of methods and process optimization, mathematical programming, linear programming, mathematical model, the basic types of tasks. Simplex algorithm. Transport and the coordinating role. Method northwest corner of the index method, Vogel's approximation method. Fundamentals of graph theory. Network analysis, CPM and PERT. Analysis of cost. Random processes. Markov chains. Queuing systems.</i>					
Recommended of required reading: <i>SLAMKOVÁ, E. - CAJCAHNOVÁ, O. - CHROMJAKOVÁ, F.: Operačná a systémová analýza. Strojnícka fakulta Žilinská univerzita, Žilina. 1998. 181 s., ISBN: 8071-0046-77</i> <i>MÁČA, J. - LEITNER, B.: Operačná a systémová analýza I. Deterministické metódy operačnej analýzy. Vysokoškolská učebnica. Fakulta špeciálneho inžinierstva. Žilinská univerzita.</i> <i>BAČÍK, J.: Operačná a systémová analýza. Košice: Aprilla s.r.o. 2009, ISBN 978-80-89346-17-2</i> <i>DOSTÁL, P. - RAIS, K., SOJKA, Z. Pokročilé metódy manažerského rozhodování. 1. vyd., Praha: Grada Publishing, a.s., 2005, 168 s., ISBN 80-247-1338-1.</i> <i>GROS, I.: Kvantitatívni metódy v manažerskom rozhodování. 1. vyd. Praha: Grada Publishing</i>					
Language: <i>Slovak</i>					
Remarks: <i>The subject is provided in the winter semester v1. year of full-time study. Subject is required</i>					
Evaluation history: <i>Total number of students being evaluated: 186</i>					
A	B	C	D	E	FX
57,57	21,21	15,16	3,03	0,00	3,00
Lecturers: <i>Assoc. Mgr. Daniela Hricišáková, PhD. - lecturer</i> <i>Ing. Lenka Rybičková, PhD. - lecturer, instructor</i>					
Last modification: <i>15.4.2014</i>					
Supervisor: <i>prof. Ing. Jiří Balla, CSc., guarantee of the study program "Special Mechanical Engineering Technology".</i>					