Information sheet for the course
Computer modeling equipment and processes

University: *Alexander Dubček University of Trenčín*	
Faculty: *Faculty of special technology*	
Course unit code: *MŠT/B/1-23/d*	**Course unit title:** *Computer modeling equipment and processes*
Type of course unit: *compulsory*	
Planned types, learning activities and teaching methods: *2 hours of lectures per week, 2 hours of exercises per week, face to face method*	
Number of credits: *5*	
Recommended semester: *5th semester in the 3rd year (full-time)* *6th semester in the 3rd year (part-time)*	
Degree of study: *I. (bachelor)*	
Course prerequisites: *none*	
Assessment methods: *Continuous assessment: 100% participation in exercises, meet the goals set exercises, min. 60% attendance at lectures, correctly semester work, demonstrate knowledge of subject course in written and oral examination.*	
Learning outcomes of the course unit: *The student has knowledge of cross-department and obtains a comprehensive overview of the basic foundations of modeling of technical systems, which is essential for the successful handling of specialized subjects related to the design of special equipment for 1st and 2nd stage of study.*	
Course contents: *Modeling and simulation of mechatronics. Mathematical and computational models. Matlab as an engineering calculation. Mathematical theory of dynamic systems. State equation - universal form of a mathematical model of a dynamic system. Block models. Modeling and simulation systems in the form of state equations in Matlab - Control toolbox. Transformation models. Modelling composite systems. Modeling and simulation of mechanical systems, electrical circuits and electromechanical systems.*	
Recommended of required reading: *KOZÁK, Š., KAJAN, S.: MATLAB-Simulink I a II. STU Bratislava, TU Košice, UMB Banská Bystrica, ŽU Žilina, 1999.* *ŠTEFULA,J.: Príklady matematických a počítačových modelov mechatronických systémov. TnUAD Trenčín, 2002.* *KARBAN,P. Výpočty a simulace v programech MATLAB a Simulink. Computer Press, Brno 2006*	
Language: *Slovak*	
Remarks	

Evaluation:
Total number of students being evaluated ... divided by notes

A	B	C	D	E	FX

Lecturers: *Assoc.prof. Ing. Ľubomír Uherík, CSc.* *Ing. Milan Jus, PhD.*	
Last modification: *15.4.2014*	
Supervisor: *Assoc. prof. Ing. Peter Lipták, CSc., guarantee of the study program „Mechanisms in Special Technology"*	