Information sheet for the course
Advanced Composite Materials

University: *Alexander Dubček University of Trenčín*	
Faculty: *Faculty of Industrial Technologies in Púchov*	
Course unit code: *MI-I-P-20*	**Course unit title:** *Advanced Composite Materials*
Type of course unit: *compulsory*	
Planned types, learning activities and teaching methods: *Lecture: 2 hours weekly/26 hours per semester of study; face to face* *Seminar: 1 hour weekly/13 hours per semester of study; face to face* *Laboratory tutorial: 0*	
Number of credits: *3*	
Recommended semester: *4th semester in the 2nd year full-time* *6th semester in the 3rd year full-time*	
Degree of study *the 2nd degree of study (Engineer's degree)*	
Course prerequisites: *none*	
Assessment methods: *Classification B at least 70 points; Classification C at least 65 points; Classification D at least 60 points; Classification E at least 55 points. Students who will get less than 12 points for one written exam will obtain no credits.*	
Learning outcomes of the course unit: *Students will be orientated in an extensive range of materials and in the interaction of basic and new materials in their application in technical practice. They are able to propose individually combinations of various materials for a particular component.*	
Course contents: *Definition and characteristic of advance composite materials (ACM)* *Use of ACM in mechanical engineering, building, transportation and power engineering* *Nanocomposites* *Biocomposites for medicine* *Structured layers, coated textile for components of composite materials* *Stress-strain conditions of composites* *Fracture behaviour of fibre composite materials* *New polymer materials for production and design of ACM* *Modern technologies of production of ACM* *Input material parameters of composites for computer modelling of stress-strain conditions* *Proposal of a computer modelling system of structural units produced from ACM* *Experimental modelling of structural units made of ACM* *Hybrid composite materials*	
Recommended references and resources: *1.* POKLUDA, J., KROUPA, F., OBDRŽÁLEK, L. *Mechanické vlastnosti a struktura pevných látek.* Brno 1994. p. 386. ISBN 80-214-0575-9. *2.*ASM Metals Handbook: Failure analysis and Prevention, Vol. 11, pp. 1039-1071.	

Language: *Slovak*

Remarks: *none*

Evaluation history: *Number of classified students : 0*

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Lecturers: *prof. Ing. Františka Pešlová, PhD., Ing. Vladimíra Krmelová, PhD.*

Last modification: *31.03.2014*

Supervisor: *prof. Ing. Darina Ondrušová, PhD.*