

**Information sheet for the course
Material Science I.**

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of special technology</i>					
Course unit code: <i>ŠST/B/3-11/d</i>			Course unit title: <i>Material Science I.</i>		
Type of course unit: <i>compulsory</i>					
Planned types, learning activities and teaching methods: <i>lectures - 2 hours weekly, laboratory seminars - 2 hours weekly on-site method</i>					
Number of credits: <i>6</i>					
Recommended semester: <i>2nd semester in the 1st year /full-time/ 3rd semester in the 2st year /part-time/</i>					
Degree of study: <i>I.</i>					
Course prerequisites: <i>none</i>					
Assessment methods: <i>100% attendance on seminars, 60 % attendance on lectures, successful submission of the seminar paper, proof of acquired knowledge from the subject with using oral and written examination</i>					
Learning outcomes of the course unit: <i>The course will provide the students information and knowledge about the features, theory and testing of constructional and tool materials. It justifies the needs to increase the usage properties of these materials in a view of their effective application especially for components designed for engineering industry.</i>					
Course contents: <i>Subject clarifies the relationship between chemical composition, internal structure and properties of materials. It gives information about ferrous alloys, light and non-ferrous metals and alloys and their heat, chemical-heat and thermo-mechanical treatment. Material standards of the most important materials such as alloys based on iron, light and non-ferrous metals. Progress perspectives of new selected materials with high values of physical-mechanical properties.</i>					
Recommended of required reading: <i>SKOČOVSKÝ, P. A KOL.: Náuka o materiáli, Bratislava: ALFA, 1996 PLUHAŘ, J. A KOL.: Nauka o materiálech, Praha: SNTL/ALFA, 1989 SKOČOVSKÝ, P. A KOL.: Konštrukčné materiály, Žilina: EDIS, 2000 PTÁČEK, L. A KOL.: Náuka o materiálu I., Brno: Akademické nakladatelství CERM, 2003 HÍREŠ, O.: Fyzikálna metalurgia ocelí a ich tepelné spracovanie, Trenčín: FŠT TnU AD vo vydavateľstve GC-TECH Trenčín, 2006 LIČKOVÁ, M., BARÉNYI, I.: Náuka o materiáloch I.- Návody na cvičenia, FŠT TnUAD v Trenčíne, 2009</i>					
Language: <i>Slovak, English</i>					
Remarks:					
Evaluation history <i>Total number of students being evaluated: 440</i>					
A	B	C	D	E	FX
2,73	5,91	20,68	26,14	35,45	9,09
Lecturers: <i>Assoc.prof. Ing. Ondrej Híreš, CSc. Ing. Igor Barényi, PhD.</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>					