

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

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of special technology</i>					
Course unit code: <i>SaOA/B/3-12/d</i>			Course unit title: <i>Material Science II.</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: 5					
Recommended semester: <i>3rd semester in the 2st year (full-time)</i> <i>4th semester in the 2st year (part-time)</i>					
Degree of study: <i>I. (bachelor)</i>					
Course prerequisites: <i>Material Science I.</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 and automotive industry.</i>					
Course contents: <i>Collecting information from material standards of most important materials. Explaining of relation between chemical composition, internal structure and properties of materials after heat treatment. Methods of heat, chemical-heat and thermo-mechanical treatment. Annealing, quenching and tempering of steel. Transformation of austenite in heat treatment of steels.</i>					
Recommended of required reading: <i>SKOČOVSKÝ, P. a kol.: Náuka o materiáli, Bratislava: ALFA, 1996</i> <i>HÍREŠ, O.: Fyzikálna metalurgia ocelí a ich tepelné spracovanie, Trenčín: TnU AD, vydavateľstvo GC-TECH Trenčín, 2006</i> <i>PLUHAŘ, J. a kol.: Nauka o materiálech, Praha: SNTL/ALFA, 1989</i> <i>SKOČOVSKÝ, P. a kol.: Konštrukčné materiály, Žilina: EDIS, 2000</i> <i>PTÁČEK, L. a kol.: Nauka o materiálu II., Brno: Akademické nakladatelství CERM, 2002</i> <i>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: 499</i>					
A	B	C	D	E	F
3,13	12,71	25,61	19,58	26,04	12,92
Lecturers: <i>Assoc.prof. Ing. Ondrej Híreš, CSc.</i> <i>Ing. Igor Barényi, PhD.</i>					
Last modification: <i>15.4.2014</i>					
Supervisor: <i>prof. Ing. Alexej Chovanec, PhD., guarantee of the study program "Vehicles Maintenance and Repair".</i>					