

Information sheet for the course Material Science II

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>	
Course unit code: <i>PP-P-28</i>	Course unit title: <i>Material Science II</i>
Type of course unit: <i>optional</i>	
Planned types, learning activities and teaching methods: <i>Lecture: 2 hours weekly/26 hours per semester of study; face to face</i> <i>Seminar: 2 hours weekly/26 hours per semester of study; face to face</i> <i>Laboratory tutorial: -</i>	
Number of credits: 5	
Recommended semester: <i>5th semester in the 3rd year full-time</i> <i>5th semester in the 3rd year part-time</i>	
Degree of study: <i>the 1st degree of study (Bachelor's degree)</i>	
Course prerequisites: <i>PP-P-4 Material Science I</i>	
Assessment methods: <i>examination</i>	
Learning outcomes of the course unit: <i>The student obtains basic information about modifications of the properties of steel with heat and chemical - heat treatment.</i>	
Course contents: <i>Plastic deformation. Recovery and recrystallization.</i> <i>Heat treatment. Austenitizing.</i> <i>The use of ARA and IRA diagrams for the heat treatment</i> <i>Pearlitic transformation.</i> <i>Annealing.</i> <i>Hardening - martensite and bainite transformation.</i> <i>Tempering.</i> <i>Mechanical - thermal treatment.</i> <i>Chemical - heat treatment.</i> <i>Excursion in custom <u>hardening room</u></i>	
Recommended of required reading: <i>Pulc, V., Hrnčiar, V., Gondár, E.: Náuka o materiáli, STU Bratislava, 2004</i> <i>Ptáček, L.. a kol.: Náuka o materiálu I, II . Akademické nakladatelství CERM, Brno,2002.</i> <i>Skočovský, P., Bokúvka, O., Konečná, R.,Tillová, E.: Náuka o materiáli pre odbory strojnícke. ŽU. EDIS Žilina. 2001.</i> <i>Martinkovič, M., Hudáková, M., Moravčík, R.: Náuka o materiáloch II - Návody na cvičenia. STU Bratislava 2001.</i> <i>Konečná, R., Tillová, E, Šupík, V., Skočovský, P.: Návody na cvičenia z Náuky o materiáli II. ŽU</i>	

EDIS Žilina. 2001.

Bezecný, J. : Vznik trhlin a lomov pri tepelnom spracovaní ocelí. TnU AD. Trenčín 2007.

Roučka, J. : Metalurgie neželezných slitin, CERM, Brno : 2004. ISBN 80-214-2790-6.

Michna, Š. a kol. : Encyklopedie hliníku. Děčín: Alcan Děčín Extrusions, 2005, 700 s. ISBN 80-890-4188-4.

Language: *Slovak*

Remarks:

Evaluation history:

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

Lecturers: *doc. RNDr. Ján Bezecný, CSc.*

Last modification: *31.03.2015*

Supervisor: *doc. Ing. Ján Vavro, PhD.*