Information sheet for the course
Material Science II.

University: *Alexander Dubček University of Trenčín*

Faculty: *Faculty of special technology*

Course unit code: *ŠST/B/3-12/d* | **Course unit title:** *Material Science II.*

Type of course unit: *compulsory*

Planned types, learning activities and teaching methods:
lectures - 2 hours weekly, laboratory seminars - 2 hours weekly

Number of credits: *5*

Recommended semester: *3st semester in the 2st year of study /full-time /*
4st semester in the 2st year of study /part-time /

Recommended semester:

Degree of study: *I*

Course prerequisites: *Material Science I.*

Assessment methods:
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

Learning outcomes of the course unit:
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.

Course contents:
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, quenchnig and tempering of steel. Transformation of austenite in heat treatment of steels.

Recommended of required reading:
SKOČOVSKÝ, P. a kol.: Náuka o materiáli, Bratislava: ALFA, 1996
HÍREŠ, O.: Fyzikálna metalurgia ocelí a ich tepelné spracovanie, Trenčín: TnU AD, vydavateľstvo GC-TECH Trenčín, 2006
PLUHAŘ, J. a kol.: Nauka o materiálech, Praha: SNTL/ALFA, 1989
SKOČOVSKÝ, P. a kol.: Konštrukčné materiály, Žilina: EDIS, 2000
PTÁČEK, L. a kol.: Nauka o materiálu II., Brno: Akademické nakladatelství CERM, 2002
LIČKOVÁ, M., BARÉNYI, I.: Náuka o materiáloch I.- Návody na cvičenia, FŠT TnUAD v Trenčíne, 2009

Language: *Slovak, English*

Remarks:

Evaluation history
Total number of students being evaluated: 499

A	B	C	D	E	F
3,13	12,71	25,61	19,58	26,04	12,92

Lecturers: *Assoc.prof. Ing. Ondrej Híreš, CSc.*
Ing. Igor Barényi, PhD.

Last modification: *15.4.2014*

Supervisor: *prof. Ing. Jiří Balla, CSc., guarantee of the study program "Special Mechanical Engineering Technology".*