

Information sheet for the course Selected Chapters from Material Diagnostics

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>					
Course unit code: <i>M-PV-9</i>			Course unit title: <i>Selected Chapters from Material diagnostic</i>		
Type of course unit: <i>optional</i>					
Planned types, learning activities and teaching methods:					
Number of credits: <i>4</i>					
Recommended semester: <i>obligation to complete no later than half of standard study length</i>					
Degree of study: <i>the 3rd degree of study (PhD. degree)</i>					
Course prerequisites: <i>Passing all compulsory and elective courses from the study plan, prescribed under the study of doctoral studies, including the subject of M-PV-3 Material diagnostics, fulfillment of all requirements which are necessary for the execution of the dissertation examination.</i>					
Assessment methods: <i>Successful passing of the dissertation examination.</i>					
Learning outcomes of the course unit: <i>Successful completion of the dissertation examination.</i>					
Course contents: <i>The characteristics of the chemical composition of the materials examined in the context of dissertations - methods for the detection of chemical composition - crystalline structure of materials - lattice defects and their study - influencing the structure with the thermal and mechanical processing - X-ray, microscopic and microfractographic study of the properties of materials. Diagnostic methods for evaluation of the quality of materials and final products (component of equipment). Characteristics of examined material, composition, structure, important physical and mechanical properties and relationships between them. ...) The basic principles of the methods used for examining the characteristics of a given material (the methods of chemical analysis, structural analysis, spectrum analysis, thermal analysis, dynamic mechanical analysis, the method of determining the physical and mechanical properties, etc ...)</i>					
Recommended of required reading: <ol style="list-style-type: none"> 1. Jandoš, F, Říman, R., Gemperle, A. : <i>Využití moderních laboratorních metod v metalografii, SNTL, Praha, 1985</i> 2. Hrivňák, I. : <i>Elektrónová mikroskopia ocelí, VEDA, Bratislava, 1986</i> 3. Kopecký, B. : <i>Nedestruktivní zkoušení, CERM, Brno, 2008</i> 4. Ptáček, L. a kol.: <i>Náuka o materiálu I, II . Akademické nakladatelství CERM, Brno, 2002.</i> 5. Bezecný, J. : <i>Vznik trhlin a lomov pri tepelnom spracovaní ocelí. TnU AD. Trenčín 2007.</i> 6. Bezecný, J. : <i>Diagnostické metódy v materiálovom inžinierstve, Digitalizácia TnUAD: Rozvoj inovatívnych foriem vzdelávania a skvalitnenie študijných programov TnU AD, Trenčín, 2013.</i> 7. <i>Odborná literatúra a zahraničné vedecké publikácie k téme dizertačnej práce.</i> 					
Language: <i>Slovak</i>					
Remarks:					
Evaluation history:					
A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Lecturers: <i>doc. RNDr. Ján Bezečný, CSc.</i>
Last modification: <i>30.04.2014</i>
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