

## Subject information sheet

<b>University:</b> Alexander Dubček University of Trenčín	
<b>Faculty:</b> Faculty of special technology	
<b>Course unit code:</b> KSTM/3-78/d/18	<b>Course unit title:</b> Testing of Technical Materials
<b>Type, scope and method of educational activities:</b> <b>Types of education:</b> Lecture / Practical / Laboratory practical <b>Recommended duration of education (in hours):</b> <b>Per week:</b> 0 / 0 / 2 <b>For the whole period of study:</b> 0 / 0 / 24 <b>Study method:</b> present	
<b>Number of credits:</b> 6	
<b>Recommended semester/trimester of study:</b>	
<b>Degree of study:</b> N	
<b>Prerequisites:</b>	
<b>Conditions for the accomplishment of the course unit:</b> 100% participation in lectures and seminar exercises. Successful completion of tasks assigned during exercises. Successful completion of the final test.	
<b>Learning outcomes:</b> The student understands basic methods of mechanical testing of technical materials both by destructive and non-destructive tests according to relevant EN ISO standards. The course also includes the description and designation of some specific materials key to research in FST.	
<b>Brief course unit content:</b> 1. Tensile strength test 2. Charpy Impact Test 3. Hardness Tests: Brinell, Vickers, Rockwell and other commonly used hardness tests. 4. Spectral analysis of metals. Atomic emission spectroscopy. 5. Non-destructive methods for material testing: RTG, Ultrasound methods. 6. Optical microscopy 7. Stainless steels and its properties 8. High strength steels and its properties 9. ARMOX, HARDOX armoured steels and its properties 10. Selected engineering ceramic materials 11. Composite materials 12. Final test	
<b>Recommended Literature:</b> [1] e-learning FST TnUAD [2] CALLISTER, W.D., Jr.: Material science and engineering, Wiley & Sons, Inc., USA, [3] STN EN ISO 6892-1 [4] STN EN ISO 148-1 [5] STN EN ISO 6506-1 [6] STN EN ISO 6507-1 [7] STN EN ISO 6508-1	
<b>Language which is necessary for accomplishment of the course unit:</b>	

English language.					
<b>Notes:</b>					
<b>Course evaluation passed/failed</b>					
Number of evaluated students: 10					
A	B	C	D	E	Fx
60.0	40.0	0.0	0.0	0.0	0.0
<b>Teachers:</b> doc. Ing. Igor Barényi, PhD.					
<b>Last modification date:</b> 27.09.2022					
<b>Approved by:</b>					