

Information sheet for the course Steels and Cast Irons

University: <i>Alexander Dubček University of Trenčín</i>					
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>					
Course unit code: <i>MT-P-12</i>			Course unit title: <i>Steels and Cast Irons</i>		
Type of course unit: <i>compulsory</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>					
Number of credits: <i>5</i>					
Recommended semester: <i>2nd semester in the 1st year full-time</i> <i>2nd semester in the 1st year part-time</i>					
Degree of study: <i>the 1st degree of study (Bachelor's degree)</i>					
Course prerequisites: <i>none</i>					
Assessment methods: <i>2 examination papers of students will be evaluated during the course:</i> <i>18 – 20 spots....classification A</i> <i>16 – 17 spots....classification B</i> <i>14 – 15 spots....classification C</i> <i>12 – 13 spots....classification D</i> <i>10 – 11 spots....classification E</i> <i>9 and less....classification Fx</i>					
Learning outcomes of the course unit: <i>Student has a review knowledges in the field and knows applications of steels and cast irons.</i> <i>Student knows binary diagram Fe-Fe₃C and microstructural characteristics of phases; define and establish technological process to enhance mechanical and technological properties.</i>					
Course contents: <ol style="list-style-type: none"><i>1. Selection and designation of steels</i><i>2. Clasification and designation of low-carbon steels.</i><i>3. Clasification and designation of high-carbon steels.</i><i>4. Steels for cemenattion and nitridation.</i><i>5. Heat treatment of steels</i><i>6. Designation and selection of cast iron</i><i>7. Properties of white iron</i><i>8. Structure and properties of ductile iron</i><i>9. Using of steels and cast irons</i>					
Recommended of required reading: <ol style="list-style-type: none"><i>1. Annual Book of ASTM Standards - Section 3, Metals Test Methods and Analytical Procedures - Volume 03.02/Wear and Erosion; Metal Corrosion, ASTM, Philadelphia</i><i>2. ASM International. Handbook Committee. ASM Handbook , Properties and Selection: Irons, Steels, and High Performance. 2005, Volume 1. pp. 1618. ISBN 0-87170-379-3</i>					
Language: <i>Slovak</i>					
Remarks:					
Evaluation history:					
A	B	C	D	E	FX
Lecturers: <i>doc. Ing. Marta Kianicová, PhD., doc. RNDr. Ján Bezecný, CSc.</i>					
Last modification: <i>31.03.2014</i>					
Supervisor: <i>doc. Ing. Marta Kianicová, PhD.</i>					

