

Information sheet for the course
Selected Chapters from Polymeric Materials

University: <i>Alexander Dubček University of Trenčín</i>	
Faculty: <i>Faculty of Industrial Technologies in Púchov</i>	
Course unit code: <i>MI-I-PV-32</i>	Course unit title: <i>Selected Chapters from Polymeric Materials</i>
Type of course unit: <i>optional</i>	
Planned types, learning activities and teaching methods: <i>The course of final examination for Master's Degree / face to face</i>	
Number of credits: <i>2</i>	
Recommended semester: <i>4th semester in the 2nd year full-time</i> <i>6th semester in the 3rd year part-time</i>	
Degree of study: <i>the 2nd degree of study (Engineer's degree)</i>	
Course prerequisites: <i>The graduation of all compulsory and optional courses from study plan, including the course of MI-I-P-3 Polymeric materials.</i>	
Assessment methods: <i>Successful graduation of course at final examination for Master's Degree.</i>	
Learning outcomes of the course unit: <i>Student successfully graduates the course at final examination for Master's Degree.</i>	
Course contents: <ol style="list-style-type: none"> 1. <i>Basic terms, distribution of polymers, characterization of polymers groups.</i> 2. <i>Molecular structure of polymers.</i> 3. <i>Chemical reactions of polymers, reactivity of polymers.</i> 4. <i>Polymerization – radical, ionic, coordination.</i> 5. <i>Technological processes of polymerization – characterization, advantages and disadvantages.</i> 6. <i>Polyaddition, polycondenzation, metathese.</i> 7. <i>Physical states of polymers – characterization, the influence on degree of workability and properties.</i> 8. <i>Mechanical properties of polymers.</i> 9. <i>Rheology and viscosity of polymers.</i> 10. <i>Mixing of polymers, preparations of polymeric blends.</i> 11. <i>Processing technologies of polymers.</i> 12. <i>Testing of polymeric materials.</i> 13. <i>The most important types of plastics – properties and application (polyolefins, vinyl polymers, halocarbon plastics, styrene and acrylic polymers, polyesters, polyamides, polyurethanes, phenol plastics, amino plastics, epoxy and polyester resins)</i> 14. <i>Rubbers – properties and application.</i> 15. <i>Polymeric composites – main distribution, general characterization of basic types.</i> 16. <i>Recycling of polymers.</i> 	
Recommended of required reading: <ol style="list-style-type: none"> 1. <i>LIPTÁKOVÁ, T. a kol.: Polymérne konštrukčné materiály. Žilina: ŽU, 2012.</i> 2. <i>OLŠOVSKÝ, M. – MACHO, V.: Základy chémie polymérov. Trenčín: TnUAD, 2008.</i> 3. <i>CHRÁSTOVÁ, V. – BORSIG, E.: Makromolekulová chémia. Bratislava: STU, 1996.</i> 4. <i>OLŠOVSKÝ, M.: Kaučuky. Výroba – vlastnosti - použitie. Trenčín: TnUAD, 2012.</i> 	
Language: <i>Slovak</i>	
Remarks:	
Evaluation history	

Number of students: 0					
A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0
Lecturers: <i>doc. Ing. Petra Skalková, PhD.</i>					
Last modification: <i>31.03.2014</i>					
Supervisor: <i>prof. Ing. Darina Ondrušová, PhD.</i>					