

## Information sheet for the course Organic Chemistry of Materials

<b>University:</b> <i>Alexander Dubček University of Trenčín</i>	
<b>Faculty:</b> <i>Faculty of Industrial Technologies in Púchov</i>	
<b>Course unit code:</b> <i>MT-P-17</i>	<b>Course unit title:</b> <i>Organic Chemistry of Materials</i>
<b>Type of course unit:</b> <i>compulsory</i>	
<b>Planned types, learning activities and teaching methods:</b> <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> <i>Laboratory tutorial: 2 hours weekly/26 hours per semester of study; face to face</i>	
<b>Number of credits:</b> 6	
<b>Recommended semester:</b> <i>3<sup>rd</sup> semester in the 2<sup>nd</sup> year full-time</i> <i>5<sup>th</sup> semester in the 3<sup>rd</sup> year part-time</i>	
<b>Degree of study:</b> <i>the 1<sup>st</sup> degree of study (Bachelor's degree)</i>	
<b>Course prerequisites:</b> <i>MT-P-2 Anorganic chemistry of materials</i>	
<b>Assessment methods:</b> <i>Elaboration and submission of the final seminar work on the determined topic the extent of 10 pages at least. Final assessment (exam) written: 36 points out of 60 possible and oral exam 25 points out of 40. Total points from both parts of the examination must achieve 61 points at least. To obtain the evaluation A must be obtained 90 points at least, to obtain evaluation B 80 points at least, to obtain evaluation C 75 points at least, to obtain evaluation D at least 68 points and to obtain evaluation E 61 points at least.</i>	
<b>Learning outcomes of the course unit:</b> <i>The student is knowledgeable in the chemistry of the compounds of carbon, on basic concepts, such as a chemical bond, the structure of organic compounds, types of isomerism, tautomerism, the system of organic compounds from simple alkanes, cycloalkanes, unsaturated hydrocarbons, aromatic derivatives thereof, important monomers for the production of polymers. He knows halogenated and nucleophilic substitution reactions; hydroxy derivatives, carbonyl compounds and carboxylic acids. Has knowledge of making basic nomenclature of organic compounds and polymers, basic chemical reactions and simple synthetic procedures.</i>	
<b>Course contents:</b> <i>Basic concepts: chemical bonding, polarity and polarizability, the structure of organic compounds, electron effects, isomers, types of isomerism, saturated hydrocarbons - substituent radical reactions, unsaturated hydrocarbons, reactions: addition, radical, electrophilic, nucleophilic, aromatic hydrocarbons, electrophilic substitution reactions, halogenated derivatives, nucleophilic substitution reactions, elimination reactions, hydroxy derivatives, oxidation and reduction, aldehydes and ketones, carboxylic acids and their properties, acidity and basicity of organic compounds, polymerization reactions.</i>	
<b>Recommended of required reading:</b> <i>J. Kováč, Š. Kováč, L. Fišera, A. Krutošíková: Organická chémia 1,2.-1. vyd. Alfa, Bratislava, 1992. 1292 s. ISBN 80-05-00766-3.</i> <i>W. H. Brown: Organic Chemistry. 1.vyd. Saunders College Publishing, New York, 1995. 1115 s. ISBN 0-03-098972-8.</i> <i>K. Weissermel, H.-J. Arpe: Industrial Organic Chemistry, VCH, Weinheim, 2003, ISBN 3-527-26995-9.</i> <i>J. Svoboda: Organická chemie I, 1.vyd. VŠCHT, Praha, 2007. 310 s. ISBN 97-88-070-80561-9.</i>	

<b>Language:</b> <i>Slovak</i>					
<b>Remarks:</b>					
<b>Evaluation history:</b> <i>128</i>					
A	B	C	D	E	FX
0.78	5.47	4.69	13.28	36.72	39.06
<b>Lecturers:</b> <i>doc. Ing. Petra Skalková, PhD.</i>					
<b>Last modification:</b> <i>31.03.2014</i>					
<b>Supervisor:</b> <i>doc. Ing. Marta Kianicová, PhD.</i>					