

Course Title	Organic Chemical Technology		
Semester	Autumn/Spring		
Teaching hours per Course	Total	Lectures	Tutorials
		30	30
ECTS Credits	2.0		
The content of education			
Course Aims	The main Aim of the Course is gaining the knowledge about selected organic synthesis characteristic for typical industrial processes commonly used in different industries, like refinery, petrochemical, polymer industry, but also pharmacy and other chemical industries.		
Program	<p>T1 – General information about organic synthesis in the industry. T2 – Oxidation: process scope, mechanisms, catalysts, oxidation factors, characterization of selected oxidation processes, like cyclohexanone and cyclohexanol production, terephthalic acid production, paraffine oxidation. T3 – Reduction: process scope, mechanisms, process characterization, reduction factors, characterization of selected reduction processes, like aniline production, nitrobenzene reduction with hydrogen. T4 – Hydrolysis and hydronation: process scope, mechanisms, catalysts, factors, characterization of selected processes, like ethanol production from ethylene, propanol production from propane. T5 – Dehydration: process scope, mechanisms, catalysts, factors, characterization of selected processes, like dehydration of ethanol – ethyl ether production. T6 – Dehydrogenation: process scope, mechanisms, catalysts, factors, characterization of selected processes, like styrene production by dehydrogenation of ethylbenzene, isoprene production, oxidative dehydrogenation. T7 – Hydrogenation: process scope, mechanisms, catalysts, factors, characterization of selected processes, like fat hardening, cyclohexane production from benzene. T8 – Esterification: process scope, mechanisms, catalysts, factors, characterization of selected processes, like production of different esters with different volatility, transesterification, ethyl acetate production. T9 – Halogenation: process scope, mechanisms, catalysts, factors, characterization of selected processes: methane chlorination, propylene chlorination, hexachlorocyclohexane production. T10 - Sulfonation: process scope, mechanisms, catalysts, factors, characterization of selected processes: benzenesulfonic acid production. T11 – Nitration: process scope, mechanisms, catalysts, factors, characterization of selected processes: nitrobenzene production, propane nitration, nitroglycerine production.</p>		
Conditions of completion	<p>Grading Standard:</p> <p>The prerequisite for passing is limited by: Passing the exam. Final evaluation of the course is an exam score. Exam has a written form.</p> <p>Grade: 5.0; 4.5; 4.0; 3.5; 3.0; 2.0</p>		
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