



Subject card

Subject name and code	Organic chemistry, PG_00057677						
Field of study	Green Technologies						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2027/2028		
Education level	first-cycle studies	Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			7.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Organic Chemistry -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Krystyna Dzierzbicka					
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	45.0	30.0	0.0	0.0	0.0	75
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	75		10.0		90.0	175
Subject objectives	Familiarization with laboratory sets for typical activities performed in the laboratory, independent implementation of planned syntheses.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U05] can formulate and solve engineering tasks analytical methods, simulation as well as experimental, able to apply knowledge of basic physics and mathematics to analyze the results of experiments, is able to analyze and assess existing technical solutions		The student is able to prepare a multimedia presentation. The student is able to plan basic organic syntheses.		[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_U01] is able to obtain information from literature, databases and other sources, is able to integrate the information obtained, to make their interpretation, as well as draw conclusions and formulate and justify opinions, take part in the discussion		Student draws a correct structural formulas of organic compounds. Student identifies separate class of organic compounds.		[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject		
	[K6_W02] has a basic knowledge of chemistry including general chemistry, inorganic, organic, physical, analytical, including the knowledge necessary to describe and understand the phenomena and chemical processes occurring in the environment; measurement and the determination of the parameters of these processes.		Student classifies organic reaction mechanisms of organic compounds. Student assembles laboratory sets for typical activities performed in the laboratory.		[SW1] Assessment of factual knowledge		

Subject contents	Course content – lecture Specification of preparations: <ol style="list-style-type: none"> 1. Oxidation and reduction reactions 2. Aldehydes and ketone, 3. Carboxylic acids and their derivatives IV. Diazonium salts in organic synthesis V. Applications of reactions of magnesium organic compounds (<i>Grignard reagents</i>) 								
Prerequisites and co-requisites	Basic inorganic chemistry. Knowledge of the symbols of elements, the valence and ability to perform simple stoichiometric calculation.								
Assessment methods and criteria	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">Subject passing criteria</th> <th style="width: 25%;">Passing threshold</th> <th style="width: 25%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>Implementation of the planned syntheses. Collecting the appropriate number of points in accordance with the laboratory regulations.</td> <td>60.0%</td> <td>100.0%</td> </tr> </tbody> </table>	Subject passing criteria	Passing threshold	Percentage of the final grade	Implementation of the planned syntheses. Collecting the appropriate number of points in accordance with the laboratory regulations.	60.0%	100.0%		
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Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. D. Witt, K. Dzierzbicka, J. Rachoń <i>Syntezy i transformacje związków organicznych</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2007. 2. K. Dzierzbicka, G. Cholewiński, J. Rachoń <i>Aparatura i procesy jednostkowe stosowane w laboratorium chemii organicznej</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2018. 3. A.I. Vogel - <i>Preparatyka Organiczna</i>, WNT Warszawa 2006. 							
	Supplementary literature	<ol style="list-style-type: none"> 1. K. Dzierzbicka, D. Witt, J. Rachoń <i>Preparatyka związków organicznych. Ćwiczenia laboratoryjne</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2011. 2. B. Bochwic (tłum) <i>Preparatyka Organiczna</i>, PWN Warszawa 1971. 							
	eResources addresses								
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. Synthesis of benzoic acid from toluene. 2. Preparation of phenol from aniline. 3. Synthesis of 1,1-diphenylethen. 								
Practical activities within the subject	Not applicable								

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