



Subject card

Subject name and code	Organic Chemistry, PG_00060851						
Field of study	Chemia organiczna						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2026/2027	
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	3		ECTS credits			4.0	
Learning profile	general academic profile		Assessment form			assessment	
Conducting unit	Department of Organic Chemistry -> Faculty of Chemistry -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Magdalena Śliwka-Kaszyńska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	0.0	0.0	45
	E-learning hours included: 0.0						
	eNauczanie source addresses: Moodle ID: 3653 Chemia Organiczna part 1 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=3653						
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	45		10.0		65.0	120
Subject objectives	The aim of the course is to provide an understanding of the structure and physicochemical properties of organic compounds, to develop knowledge of the reactivity of saturated and unsaturated aliphatic hydrocarbons, aromatic compounds, alcohols, and ethers, as well as to gain an understanding of the mechanisms of the reactions they undergo.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[K6_W02] Possesses the chemical knowledge necessary to synthesize, analyze and evaluate the properties of compounds and processes used in chemical technology.		The student recognizes the structures of organic compounds. The student has knowledge of the nomenclature of organic compounds. The student explains the relationship between the structure of an organic compound and its reactivity. The student identifies atomic and molecular orbitals.			[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym	
	[K6_U03] Uses chemical knowledge to design compounds, perform physicochemical and analytical measurements, and obtain appropriate sources of information.		The student is able to use knowledge of inorganic, organic, physical, and analytical chemistry to obtain specific chemical compounds and determine their physicochemical properties.			[SU4] Ocena umiejętności korzystania z metod i narzędzi [SU3] Ocena umiejętności wykorzystania wiedzy uzyskanej w ramach przedmiotu	

Subject contents	Course content – lecture Structure and reactivity of: alkanes, cycloalkanes, alkenes, alkynes, dienes, arenes, alcohols, ethers, epoxides. Reaction mechanisms: free radical substitution, nucleophilic substitution, electrophilic substitution, elimination, cycloaddition, electrophilic addition. Course content – exercises The topics discussed and reinforced during the auditorium exercises include: the structure and reactivity of alkanes, cycloalkanes, alkenes, alkynes, dienes, arenes, alcohols, ethers, and epoxides, as well as reaction mechanisms such as free radical substitution, nucleophilic and electrophilic substitution, and elimination, cycloaddition, and electrophilic addition reactions.		
Prerequisites and co-requisites	Basic topics in inorganic and physical chemistry.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	4 written tests	60.0%	100.0%
Recommended reading	Basic literature	R. T. Morison; R. N. Boyd; Chemia Organiczna, Wydawnictwo naukowe PWN, Warszawa 1996. J. McMurry Chemia Organiczna, Wydawnictwo naukowe PWN, Warszawa 2000. J. D. Caserio, M. C. Roberts, CHEMIA ORGANICZNA, PWN Warszawa, 1969.	
	Supplementary literature	J. March Chemia Organiczna- reakcje , mechanizmy , budowa. Wydawnictwo Naukowo Techniczne , Warszawa 1975. J. Gawroński, K. Gawrońska, K. Kacprzak, M. Kwit WSPÓŁCZESNA SYNTEZA ORGANICZNA, WN PWN Warszawa 2004. J. March CHEMIA ORGANICZNA - Reakcje, mechanizmy, budowa, WNT Warszawa 1975. H. O. House NOWOCZESNE REAKCJE SYNTEZY ORGANICZNEJ, PWN Warszawa 1979. T. W. G. Solomons ORGANIC CHEMISTRY - 6th ed, John Wiley & Sons, Inc. New York, 1996.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Draw the chemical structures of the following hydrocarbons: 6-isopropyl-2,3-dimethylnonane, cyclobutylcyclobutane, 3-methylhept-2-ene, (2,2-dimethylpropyl)cyclohexane, /E/-3-hexyne, meta-bromophenol. Write the reaction mechanism of tert-butyl chloride with ethanol. Based on resonance structures, determine the direction of substitution in: nitrobenzene, aniline, and bromobenzene. Give the products of the reaction of propene with: hydrogen chloride, water in an acidic medium, hydrogen bromide in the presence of peroxides, hydrogen on platinum.		
Practical activities within the subject	Not applicable		

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