GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Organic chemistry, PG_00035963		
Field of study	Chemia organiczna		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2023/2024
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	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	dr hab. Magdalena Śliwka-Kaszyńska	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	15.0	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	5.0	50.0	100

Subject objectives

Insights into the structure and physico-chemical properties and reactivity of organic compounds

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_U03	Student draws correct structural formulas of organic compounds. Student recognizes the structure of organic compounds Student has a knowledge of the nomenclature of organic compounds Student explains the relationship structure of the organic compound and its reactivity Student identifies atomic and molecular orbitals	[SU4] Ocena umiejętności korzystania z metod i narzędzi [SU2] Ocena umiejętności analizy informacji
K6_W02	The student plans multi-step organic syntheses. The student classifies the mechanisms of organic reactions	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym

<table>
<tr><td>Subject contents</td><td>Course content – lecture
Alkanes, cycloalkanes

Reactivity and stereochemistry of alkanes and cycloalkanes

Nucleophilic substitution

Reactions of elimination

Alkenes, the reactivity of alkenes

Alkynes, the reactivity of alkynes

Multiple bonds conjugated systems

Aromatic hydrocarbons, electrophilic substitution reactions and nucleophilic substitution

Alcohols, ethers, epoxides</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>The nature of elements and their compounds, especially carbon atom;
concept of acids, bases and salts, types of reactions, the geometry of the molecules and kinetics and thermodynamics of the chemical reactions</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>lecture tests</td><td>60.0%</td><td>50.0%</td></tr><tr><td>short tests</td><td>60.0%</td><td>50.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>R. T. Morison; R. N. Boyd; Organic Chemistry, PWN, Warszawa 1996.

J. McMurry Organic Chemistry, PWN, Warszawa 2000.

J. D. Caserio, M. C. Roberts, Organic Chemistry, PWN Warszawa, 1969</td></tr><tr><td>Supplementary literature</td><td>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</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Write a structural formula for each of the following compounds:
(a) 6-Isopropyl-2,3-dimethylnonane (e) Cyclobutylcyclopentane
(b) 4-tert-Butyl-3-methylheptane (f) (2,2-Dimethylpropyl)cyclohexane
(c) 4-Isobutyl-1,1-dimethylcyclohexane (g) Pentacosane
(d) sec-Butylcycloheptane (h) 10-(1-methylpentyl)pentacosane</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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