GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Preparation of Organic Compounds, PG_00060869						
Field of study	Preparatyka związków organicznych						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2026/2027			
Education level	first-cycle studies		Subject group	Obligatory subject group in the field of study			
Mode of study	Full-time studies		Mode of delivery	at the university			
Year of study	3		Language of instruction	Polish			
Semester of study	5		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 inż. Monika Gensicka-Kowalewska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	60.0	0.0	0.0	60
	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	60		5.0		55.0	120
Subject objectives	Students should know, understand, and use basic methods and techniques used in synthesis, such as extraction, simple distillation, reduced-pressure distillation, steam distillation, and crystallization. They should be able to plan the synthesis and ensure appropriate reaction conditions (maintain anhydrous conditions, prepare appropriate baths to maintain the appropriate reaction temperature, etc.).						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K02] understands the non-technical aspects and implications of the activities of a chemical engineer, including the impact on the environment, is aware of professional behaviour, observance of professional ethics and respect for diversity of views and cultures	The student understands that work with concentrated bases, acids, flammable, and toxic substances should be performed under a fume hood. Students are not to pour waste containing toxic substances or broken glass down the sink or into the municipal waste bin. Appropriate containers are provided for these substances.	[SK5] Ocena umiejętności rozwiązywania problemów występujących w praktyce [SK3] Ocena umiejętności organizacji pracy
[K6_U12] applies the principles of health and safety at work	The student knows and is able to comply with occupational health and safety rules, thereby eliminating/minimizing risks such as injuries, accidents, and occupational diseases.	[SU4] Ocena umiejętności korzystania z metod i narzędzi [SU1] Ocena realizacji zadania
[K6_U03] is able to apply knowledge of inorganic, organic, physical and analytical chemistry and identify appropriate sources of information to design and synthesize simple chemical compounds, carry out basic physicochemical and analytical measurements	The student is able to independently plan and carry out the synthesis of an organic compound and uses appropriate techniques for purifying compounds.	[SU1] Ocena realizacji zadania [SU4] Ocena umiejętności korzystania z metod i narzędzi
[K6_W02] has knowledge of inorganic, organic, physical and analytical chemistry useful for obtaining selected groups of compounds, determining their physical and chemical properties allowing for their quantitative and qualitative analysis, making measurements and determining the parameters of chemical reactions, phenomena and processes occurring in chemical technology	The student is familiar with laboratory techniques such as crystallization, distillation, and sublimation. The student understands the properties of the basic groups of organic compounds.	[SW3] Ocena wiedzy zawartej w opracowaniu tekstowym i projektowym

Subject contents

Course content – laboratory
Single- and multi-step syntheses of selected preparations belonging to various classes of organic compounds.

Prerequisites and co-requisites

Completed classes in Organic Chemistry semester III and IV

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Entry tests and point assessments for individual preparations	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.

K. Dzierzbicka, G. Cholewiński, J. Rachoń, Chemia Organiczna dla Opornych, Wydawnictwo PG, Gdańsk 2013

	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	Health and safety regulations in a chemical laboratory. Stoichiometric calculations of chemical reactions, conversion of concentrations, preparation of solutions. Crystallization, distillation, extraction. Acid-base properties of organic and inorganic compounds. Chemical properties of basic groups of organic compounds. Techniques for conducting chemical reactions.	
Practical activites within the subject	Not applicable	

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