GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	LABARATORY PRACTICE, PG_00064369		
Field of study	Chemistry		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
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	1	Language of instruction	Polish
Semester of study	1	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Inorganic Chemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Andrzej Okuniewski	
	Teachers	dr inż. Andrzej Okuniewski dr inż. Joanna Grabowska dr inż. Anna Ordyszewska dr inż. Małgorzata Rutkowska dr inż. Aleksandra Ziółkowska	

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	0.0	0.0	30
	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	30	2.0	28.0	60

Subject objectives	Mastering the basic techniques used in chemical laboratories.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K03] is aware of the importance of caring for the quality and diligence of the tasks performed, being responsible for their consequences	The student reviews the prepared course materials and acquires the necessary knowledge to responsibly and safely perform laboratory tasks in a group.	[SK1] Assessment of group work skills [SK2] Assessment of progress of work [SK3] Assessment of ability to organize work
[K6_U03] operates typical laboratory apparatus and carries out analyses to identify chemical compounds and materials, integrating computational methods and application software	The student is able to use basic laboratory equipment, among others, to prepare solutions, perform distillation and crystallization, as well as perform qualitative and quantitative analysis. Is able to measure the pH and temperature of a solution, perform basic calculations, balance chemical reactions and collect the results in the form of a report.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task
[K6_U09] is able to recognise hazards, counteract them and work with chemical reagents and basic technical apparatus in accordance with health and safety principles and the concept of sustainability	The student can safely perform basic laboratory tasks, efficiently using reagents, media, and equipment in the chemical laboratory. Knows how to act in hazardous situations.	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject

<table>
<tr><td>Subject contents</td><td>Department of Inorganic Chemistry: Basic laboratory tasks. Solution pH. Redox reactions. Qualitative analysis of selected metal cations.

Department of Physical Chemistry: Solution preparation. Volumetry, titration. Temperature measurement, elements of electrochemistry.

Department of Analytical Chemistry: Volumetric glassware, pipetting, compatibility of flasks with pipettes. Principles of correct weighing, weight determination, unit conversion. Preparation of calibration solutions, concentration calculations. Operation and calibration of a pH meter, preparation of solutions with a specified pH. Familiarization with basic laboratory equipment (sample preparation).</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></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>DICh laboratory</td><td>60.0%</td><td>34.0%</td></tr>
<tr><td>DPCh laboratory</td><td>60.0%</td><td>33.0%</td></tr>
<tr><td>DACh laboratory</td><td>60.0%</td><td>33.0%</td></tr>
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<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>Materials available on the eNauczanie platform.

A. Okuniewski, A. Mietlarek-Kropidłowska: Techniki laboratoryjne. Materiał obowiązujący na zajęciach realizowanych w Katedrze Chemii Nieorganicznej, Gdańsk 2024.</td></tr>
<tr><td>Supplementary literature</td><td>N. Bellen, A. Gutorska: Poradnik laboranta chemika. WNT, Warszawa 1985.</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:
Techniki Laboratoryjne (Chemia) 2024/25 - Moodle ID: 39357
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=39357</td></tr>
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<tr><td>Example issues/ example questions/ tasks being completed</td><td>Sample questions can be found in the materials available on the eNauczanie platform.</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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