



## Subject card

Subject name and code	LABORATORY 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		

Subject contents	<p><b>Department of Inorganic Chemistry:</b> Basic laboratory tasks. Solution pH. Redox reactions. Qualitative analysis of selected metal cations.</p> <p><b>Department of Physical Chemistry:</b> Solution preparation. Volumetry, titration. Temperature measurement, elements of electrochemistry.</p> <p><b>Department of Analytical Chemistry:</b> 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).</p>														
Prerequisites and co-requisites															
Assessment methods and criteria	<table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>DlCh 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></table>	Subject passing criteria	Passing threshold	Percentage of the final grade	DlCh laboratory	60.0%	34.0%	DPCh laboratory	60.0%	33.0%	DACH laboratory	60.0%	33.0%		
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Example issues/ example questions/ tasks being completed	Sample questions can be found in the materials available on the eNauczanie platform.														
Work placement	Not applicable														

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