

Subject card

Subject name and code	Knowledge lab - chemistry in action, PG_00207499						
Field of study	Chemistry						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group				
Mode of study	full-time studies		Mode of delivery		e-learning		
Year of study	2		Language of instruction		Polish polish		
Semester of study	3		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Division of Didactics and Popular Science -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Bożena Karawajczyk				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	25.0	0.0	0.0	0.0	0.0	25
	E-learning hours included: 25.0						
	eNauczanie source address: https://navoica.pl/						
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	25		2.0		23.0	50
Subject objectives	Acquiring a basic understanding of the natural sciences in the context of the challenges posed by the modern economy, the green transition and the digitalisation of education.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[CHEML3_U01] Identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge.		Student makes appropriate observations and draws the right conclusions, and correctly interprets the diagrams and graphs from the experiments presented.		[SU4] test/exam - oral or written		
	[CHEML3_K02] Works individually demonstrating initiative and independence of activity and cooperates in a team fulfilling various roles in it.		Student plans their own learning and make the most of their time by completing and passing the individual modules.		[SK4] test/exam - oral or written		
	[CHEML3_W01] Enumerates basic laws and theories in chemistry, physics, mathematics and biology.		Student describes the fundamental laws and phenomena of chemistry relating to stoichiometry and chemical kinetics, and is able to identify their practical applications.		[SW4] test/exam - oral or written		

Subject contents	E-learning course based on chemical experiments, which combines theoretical knowledge with practical application in an innovative and engaging way. The course content is divided into 6 modules: Topic 1. Chemistry in numbers and colours Topic 2. Fast and slow reactions Topic 4. Corrosion mechanism and prevention Topic 5. Chemistry for the environment Topic 6. Digital laboratory Students will familiarise themselves with laboratory equipment through visual materials and detailed explanations, and will analyse experimental procedures in the form of structured stages. Student engagement will be supported by assessment tasks, quizzes and problem-based questions, which will require them to make decisions regarding the subsequent stages of the experiment and the interpretation of its results. In addition, tasks will be used to analyse the correctness of the experiments and identify potential errors, which will allow for the development of practical laboratory skills in a digital environment.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Passing the test	60.0%	100.0%
Recommended reading	Basic literature	Stepnowski P., Synak E., Szafranek B., Kaczyński Z., <i>Monitoring i analityka zanieczyszczeń w środowisku</i> , Wydawnictwo UG, Gdańsk 2010. Peter Atkins, Loretta Jones, <i>Chemia ogólna. Cząsteczki, materia, reakcje</i> , Wydawnictwo Naukowe PWN	
	Supplementary literature	VanLoon G., Duffy S., <i>Chemia środowiska</i> , PWN Obliczenia z chemii ogólnej - wyd. UG, Gdańsk 2011	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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