

Subject card

Subject name and code	Knowledge lab - chemistry in action, PG_00207499						
Field of study	Environmental Protection						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		e-learning		
Year of study	2		Language of instruction		Polish		
Semester of study	4		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 basic scientific knowledge in the context of the challenges of the modern economy, the green transition and the digitalisation of education.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[OŚL3_W01] Discusses the basic concepts of mathematics, physics, chemistry and biology. Describes physical, chemical and biological phenomena occurring in nature as well as geological, geomorphological and climatic conditions of the functioning of nature.		Student describes the fundamental chemical laws and phenomena in the fields of stoichiometry and chemical kinetics, and is able to identify their practical applications.		[SW4] test/exam - oral or written		
	[OŚL3_K02] Works individually demonstrating initiative and independence in actions, and effectively cooperates in a team, performing various roles in it.		Student independently plans their learning and makes optimal use of their time in completing and passing individual modules.		[SK4] test/exam - oral or written		
	[OŚL3_U03] Independently plans and develops her/his own lifelong learning.		Student independently makes appropriate observations and draws conclusions, and correctly interprets diagrams and graphs from the experiments presented.		[SU4] test/exam - oral or written		

Subject contents	An 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
	Completing a 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		

Document generated electronically. Does not require a seal or signature.