University of Gdańsk

Subject card

Subject name and code	Knowledge lab - chemistry in action, PG_00207499		
Field of study	Environmental Protection		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
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_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
[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

<table>
<tr><td>Subject contents</td><td>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.</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>Completing a test</td><td>60.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Stepnowski P., Synak E., Szafranek B., Kaczyński Z., Monitoring i analityka zanieczyszczeń w środowisku, Wydawnictwo UG, Gdańsk 2010.

Peter Atkins, Loretta Jones, Chemia ogólna. Cząsteczki, materia, reakcje, Wydawnictwo Naukowe PWN</td></tr><tr><td>Supplementary literature</td><td>VanLoon G., Duffy S., Chemia środowiska, PWN

Obliczenia z chemii ogólnej - wyd. UG, Gdańsk 2011</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td></td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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