University of Gdańsk

Subject card

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

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.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3"></td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>Passing the test</td><td>60.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">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 colspan="2">VanLoon G., Duffy S., Chemia środowiska, PWN

Obliczenia z chemii ogólnej - wyd. UG, Gdańsk 2011</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
</table>

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