University of Gdańsk

Subject card

Subject name and code	General chemistry, PG_00146870		
Field of study	Genetics and Experimental Biology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	undergraduate 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	3.0
Learning profile	academic	Assessment form	
Conducting unit			
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. Jolanta Kumirska	
	Teachers	dr Anna Topolewska prof. dr hab. Jolanta Kumirska dr Aleksandra Zahorska dr Bożena Karawajczyk	

Lesson types

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

Additional information:
Performing chemical experiments, learning using the "hands-on" method (learning by experiment)

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	8.0	37.0	75

Subject objectives

Laboratory exercises: Experimental knowledge of selected properties of matter and the operation of the laws of chemistry. Developing the ability to plan, implement and draw conclusions from a scientific experiment. Acquiring the ability to use basic laboratory techniques and safe work with hazardous substances.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GBEL3_W09] principles of safety and hygiene, as well as ergonomics in the workplace.	Student lists the principles of safe handling of hazardous substances. Student lists the most important elements of laboratory equipment and describes their applications for specific activities.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[GBEL3_U01] Independently perform practical tasks in the field of biological sciences and related disciplines, formulate research problems, analyze their results, and draw conclusions.	Student plans, performs and carries out research experiments, organizes and analyzes the experimental results, draws correct conclusions based on them, presents the experimental results in writing.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU8] observation of student's independent or team work
[GBEL3_W02] Knowledge of mathematics, physics, and chemistry is necessary for understanding biological phenomena and processes, as well as their application in research methodology.	Student defines the most important chemical laws and concepts governing phenomena occurring in nature. Student indicates the relationship between the structure of the atom and the properties of the element and its position in the periodic table. Student lists the most important types of chemical bonds. Student describes the structure of gases, liquids and solids in terms of the kinetic-molecular model of matter. Student defines molar and percentage concentration. Student describes the most important aspects of energy, kinetics and reaction equilibrium. Student describes the acid-base properties of aqueous solutions using the concept of pH. Student explains the basic concepts of oxidation-reduction reactions and electrochemical phenomena. Student describes the basic methods of testing the properties of chemical substances.	[SW2] presentation/project/paper/ report [SW3] text preparation/written work
[GBEL3_U03] Proficient in using research equipment and tools, while following the correct sequence of procedures, to conduct basic physical, biological, or chemical observations and measurements in laboratory work within the field of biological sciences.	Student selects and uses laboratory equipment in accordance with its intended purpose. Student conducts calculations using the known chemical laws.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work [SU8] observation of student's independent or team work
[GBEL3_K05] Responsibility for the safety of one's own work and others.	Student follows the rules of safe conduct in a chemical laboratory in such a way as not to pose a threat to one's own health, the health of others and the environment. Student uses the information contained in the Safety Data Sheets Hazardous Substances.	[SK2] presentation/project/paper/ report [SK3] text preparation/written work [SK8] observation of student's independent or team work
[GBEL3_K08] Responsibility for entrusted equipment/materials and respect for the work of others.	Student shows responsibility for the entrusted equipment and reagents, ensures cleanliness and order at the workplace. Student takes tests and colloquiums and submits reports within the prescribed deadlines.	[SK2] presentation/project/paper/ report [SK3] text preparation/written work [SK8] observation of student's independent or team work

Subject contents

Laboratory exercises: Laboratory tasks related to the topic of the lecture.

Prerequisites and co-requisites

lack

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
positive grades in all entrance written tests	51.0%	80.0%
developing and presenting the results in writing and obtaining partial passes for all experimental tasks	51.0%	20.0%
performing all exercises provided for in the study program	100.0%	0.0%

Recommended reading	Basic literature	1. Jones L., Atkins P. 2020. Chemia ogólna. PWN, Warsow 2. Lee J. D. 1994. Zwięzła chemia nieorganiczna. PWN, Warsow 3. Pauling L., Pauling P. 1997. Chemia. PWN, Warsow
	Supplementary literature	1. Bielański A. 2012. Podstawy chemii nieorganicznej. Tom 1, 2. PWN, Warsow
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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