GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	GENERAL CHEMISTRY, PG_00048911		
Field of study	Chemistry in Construction Engineering		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2023/2024
Education level	first-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research 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	7.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Inorganic Chemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Jarosław Chojnacki	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	30.0	0.0	0.0	0.0	60

E-learning hours included: 0.0

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	60	15.0	100.0	175

Subject objectives

Understanding of principles of general chemistry

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_W03	The student has a well-established knowledge and good theoretical background in general chemistry, including the knowledge necessary to describe and understand the chemical phenomena and processes applied in construction engineering	[SW1] Assessment of factual knowledge
K6_U07	The student knows the basic theories about the structure of the atom and the molecules and about their mutual reactivity. He/she can use different ways of expressing concentrations of solutions and can calculate the amount of reagents necessary to obtain the desired substance by chemical reaction.	[SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools

Subject contents	1. Structure of matter, the standard model. 2. Electronic structure of the atom. 3. Classification of the elements. 4. Chemical bonds. 5. Classification of chemical compounds. 6. Chemical reactions. 7. Concentrations of solutions. 8. Chemical equilibria in water solutions. 9. Basics of electrochemistry. 10. Writing chemical reactions. 11. Stoichiometric Calculations
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written tests for the classroom part	53.0%	33.0%
Written exam for lectures	55.0%	67.0%

Recommended reading

Basic literature	1. L. Jones, P. Atkins, Chemia Ogólna. Cząsteczki, materia, reakcje. Wydawnictwo Naukowe PWN Warszawa 2014. 2. A. Bielański, Podstawy Chemii Nieorganicznej, PWN Warszawa 2006 3. Praca zbiorowa, Podstawy Obliczeń Chemicznych, Skrypt w wersji elektronicznej: https://chem.pg.edu.pl/kchn/chb-chemia-ogolna
Supplementary literature	1. M. J. Sienko, R. A. Plane, Chemia, Podstawy i Zastosowania, WNT 2002 2. Z. Bądkowska, E. Koloński, M. Wojnowska, Obliczenia z Chemii Nieorganicznej, Wydawnictwo PG 1996 - skrypt.
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Balance the reaction: $MnO_4^- + SO_3^{2-} + ... = Mn^{2+} + SO_4^{2-} + H_2O$

Give the electronic configuration of basic state and the number of unpaired electrons for Ga^+, N i F^-.

Write chemical equations and name products of electrolysis of aqueous solution of $CaCl_2$ using platinum electrodes.

Work placement	Not applicable