GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	General and inorganic chemistry, PG_00058995		
Field of study	Materials Engineering, Materials Engineering, Materials Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
Education level	first-cycle 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	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Inorganic Chemistry -> Faculty of Chemistry		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Jarosław Chojnacki	
	Teachers	prof. dr hab. inż. Jarosław Chojnacki	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	15.0	0.0	0.0	0.0	45

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	45	5.0	50.0	100

Subject objectives

Understanding of principles of general and inorganic chemistry

Learning outcomes

Course outcome	Subject outcome	Method of verification
K6_U03	The student is able to make a critical analysis of how technical solutions function from the point of view of chemical sciences and evaluate them, especially in connection with materials engineering.	[SU3] Assessment of ability to use knowledge gained from the subject
K6_K01	He/she understands the need to improve professional and personal competences, is able to properly determine the priorities for the implementation of tasks specified by him or herself or by others	[SK2] Assessment of progress of work
K6_W02	has knowledge of physics and chemistry useful for formulating and solving simple tasks in the field of materials science	[SW1] Assessment of factual knowledge

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: Skrypt do ćwiczeń 4. Materiały na stronie e-nauczania
	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	

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