GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of Chemistry in Environmental engineering I, PG_00058739		
Field of study	Environmental 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
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	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Environmental Engineering Technology -> Faculty of Civil and Environmental Engineering		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Karolina Fitobór	
	Teachers	dr inż. Karolina Fitobór	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

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	30	0.0	20.0	50

Subject objectives

Review of fundamental issues of the general chemistry (including inorganic chemistry, electrochemistry, chemical kinetics), introduction to the chemistry in civil engineering, environmental chemistry and acquiring the ability to perform basic chemical analyzes (qualitative and quantitative tests of water and wastewater).

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U09] is able to use well-chosen methods and measuring devices that enable determination of basic parameters of the water treatment process and wastewater treatment; can perform simple laboratory tests leading to the assessment of water quality, pollutant load in sewage	Student is able to use properly selected methods and devices and to prepare and perform basic physico-chemical laboratory tests.	[SU4] Assessment of ability to use methods and tools [SU3] Assessment of ability to use knowledge gained from the subject
[K6_W03] has a structured and theoretically founded knowledge in the field of chemistry and biology, including knowledge necessary to understand the technological processes related to water treatment, wastewater treatment, waste management and sludge management	Student has properly organized knowledge (with theoretical basis) in the field of chemistry, including knowledge necessary to understand technological processes related to water and wastewater treatment, as well as waste and sludge management.	[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge

Subject contents

General chemistry basis (i.e. structure of matter, kinetics of reaction equations, stoichiometry, inorganic chemistry, physical chemistry) and overview of topics connected with chemistry in civil engineering and environmental chemistry (especially chemistry of water and wastewater).

Prerequisites and co-requisites

- ability to use basic knowledge of chemistry from earlier years of education
- the ability to use the knowledge from lectures during practical classes (continuation of the subject during laboratory classes)

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
2 x test	60.0%	100.0%

Recommended reading	Basic literature	1) Jones L., Atkins P., Leroy L.: Chemia ogólna. Wydawnictwo Naukowe PWN, Warszawa 2020 2) Bielański A.: Podstawy chemii nieorganicznej. Wydawnictwo Naukowe PWN, Warszawa 2010. 3) Czarnecki I., Broniewski T., Henning O.: Chemia w budownictwie. Wydawnictwo Arkady, Warszawa 2000.
	Supplementary literature	1) Kowal A.L., Świderska Bróż M.: Oczyszczanie Wody. Podstawy teoretyczne i technologiczne, procesy i urządzenia. Wydawnictwo Naukowe PWN, Warszawa 2007. 2) Prejzner J.: Chemia z elementami chemii środowiska. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1996
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	-	
Work placement	Not applicable	