GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00058996		
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 Subject group related to scientific research in the field of study
Mode of study	Part-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	9.0
Learning profile	general academic profile	Assessment form	exam
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. Aleksandra Sokołowska dr inż. Karolina Fitobór	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	16.0	16.0	0.0	0.0	62

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	62	8.0	155.0	225

Subject objectives

Repetition and consolidation regarding general chemistry and introduction to building chemistry and environmental chemistry, as well as the ability to perform basic laboratory analyzes (qualitative and quantitative tests of water and sewage) and chemical calculations.

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	The student is able to use properly selected methods and devices, and is able to perform simple laboratory tests.	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
[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	The student has well structured and theoretically based knowledge in the field of chemistry, including the knowledge necessary to understand the technological processes related to water treatment, wastewater treatment, waste and sludge management.	[SW1] Assessment of factual knowledge

Subject contents

Basic issues regarding general chemistry (including the structure of matter, kinetics of chemical reaction equations, stoichiometry, inorganic chemistry, physical chemistry), as well as the most important issues in the field of building chemistry and environmental chemistry (with particular emphasis on water and sewage chemistry).

Prerequisites and co-requisites

The ability to use knowledge from lectures during laboratory classes.

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Lectures - passed test</td><td>60.0%</td><td>60.0%</td></tr>
<tr><td>Laboratory classes + tutorials - completion of the course on the basis of a passed tests, reports etc.</td><td>60.0%</td><td>40.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>Lectures:
Prejzner J.: Chemia z elementami chemii środowiska. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1996.
Czarnecki I., Broniewski T., Henning O.: Chemia w budownictwie. Wydawnictwo Arkady, Warszawa 2000.
Bielański A.: Podstawy chemii nieorganicznej. Wydawnictwo Naukowe PWN, Warszawa 2010.

Laboratory classes:
Prejzner J.: Laboratorium chemii ogólnej i sanitarnej. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1991. /oraz pozostałe wydania/

Tutorials:
Prejzner J.:Ćwiczenia audytoryjne z chemii. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1995. /oraz pozostałe wydania/</td></tr>
<tr><td>Supplementary literature</td><td>Lectures:
Kowal A.L., Świderska Bróż M.: Oczyszczanie Wody. Podstawy teoretyczne i technologiczne, procesy i urządzenia. Wydawnictwo Naukowe PWN, Warszawa 2007.

Laboratory classes:
Prejzner J.: Chemia nieorganiczna. Laboratorium. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2004.

Tutorials:
Prejzner J.:Ćwiczenia audytoryjne z chemii. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1995.</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:
Podstawy chemii w inżynierii środowiska (studia niestacjonarne) - semestr letni 2023/2024 - Moodle ID: 33041
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=33041</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Determination of selected basic water quality parameters.

Chemical calculations (e.g. stoichiometric calculations; solution concentrations; concentrations and loads of water/sewage components and pollutants).

Analysis of water quality parameters in relation to the Polish Standards and regulations.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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