



Subject card

Subject name and code	, PG_00058996						
Field of study	Environmental 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 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_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		
	[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.			[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment		
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.						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Laboratory classes + tutorials - completion of the course on the basis of a passed tests, reports etc.	60.0%	40.0%
	Lectures - passed test	60.0%	60.0%
Recommended reading	Basic literature	<p>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. Białański A.: Podstawy chemii nieorganicznej. Wydawnictwo Naukowe PWN, Warszawa 2010.</p> <p>Laboratory classes: Prejzner J.: Laboratorium chemii ogólnej i sanitarnej. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1991. /oraz pozostałe wydania/</p> <p>Tutorials: Prejzner J.: Ćwiczenia audytoryjne z chemii. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1995. /oraz pozostałe wydania/</p>	
	Supplementary literature	<p>Lectures: Kowal A.L., Świdorska Bróż M.: Oczyszczanie Wody. Podstawy teoretyczne i technologiczne, procesy i urządzenia. Wydawnictwo Naukowe PWN, Warszawa 2007.</p> <p>Laboratory classes: Prejzner J.: Chemia nieorganiczna. Laboratorium. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2004.</p> <p>Tutorials: Prejzner J.: Ćwiczenia audytoryjne z chemii. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1995.</p>	
	eResources addresses	<p>Adresy na platformie eNauczanie: Chemia dla kierunku Inżynieria Środowiska (studia niestacjonarne) - semestr letni 2022/2023 - Moodle ID: 25564 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=25564</p>	
Example issues/ example questions/ tasks being completed	<p>Determination of selected basic water quality parameters.</p> <p>Chemical calculations (e.g. stoichiometric calculations; solution concentrations; concentrations and loads of water/sewage components and pollutants).</p> <p>Analysis of water quality parameters in relation to the Polish Standards and regulations.</p>		
Work placement	Not applicable		