



Subject card

Subject name and code	Chemistry, PG_00042610						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2021/2022		
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. Karolina Fitobór dr inż. Aleksandra Sokołowska inż. Krystyna Mierzejewska					
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 Adresy na platformie eNauczanie: Chemia dla kierunku Inżynieria Środowiska (studia niestacjonarne) - semestr letni 2021/2022 - Moodle ID: 19562 https://enauzanie.pg.edu.pl/moodle/course/view.php?id=19562						
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	12.0		152.0	226	
Subject objectives	Revision of the general chemistry and introduction to the chemistry of construction materials and environmental chemistry; knowledge and ability to perform chemical analyses (qualitative and quantitative tests of water and wastewater).						
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	Student has in-depth and well-structured chemistry and biology knowledge, including the knowledge necessary to understand technological processes related to water and wastewater treatment, as well as 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	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 information of general chemistry (i.a.: constitution of matter, kinetics of chemical equations, stoichiometry, inorganic chemistry, physical chemistry), as well as the most important issues of chemistry of construction materials and environmental chemistry (with particular emphasis on water and wastewater chemistry).						

Prerequisites and co-requisites	Ability to use the knowledge from lectures during laboratory classes.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Laboratory classes and tutorials - course completion (tests, reports)	60.0%	40.0%
	Lectures - tests	60.0%	60.0%
Recommended reading	Basic literature	<p>Lectures:</p> <p>Prejzner J.: <i>Chemia z elementami chemii środowiska</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1996. Czarnecki I., Broniewski T., Henning O.: <i>Chemia w budownictwie</i>. Wydawnictwo Arkady, Warszawa 2000. Bielański A.: <i>Podstawy chemii nieorganicznej</i>. Wydawnictwo Naukowe PWN, Warszawa 2010.</p> <p>Laboratory classes:</p> <p>Prejzner J.: <i>Laboratorium chemii ogólnej i sanitarnej</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1991. /and other editions/</p> <p>Tutorials:</p> <p>Prejzner J.: <i>Ćwiczenia audytoryjne z chemii</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1995. /and other editions/</p>	
	Supplementary literature	<p>(All literature in Polish)</p> <p>Lectures:</p> <p>Kowal A.L., Świdzka Bróz M.: <i>Oczyszczanie Wody. Podstawy teoretyczne i technologiczne, procesy i urządzenia</i>. Wydawnictwo Naukowe PWN, Warszawa 2007.</p> <p>Laboratory classes:</p> <p>Prejzner J.: <i>Chemia nieorganiczna. Laboratorium</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 2004.</p> <p>Tutorials:</p> <p>Prejzner J.: <i>Ćwiczenia audytoryjne z chemii</i>. Wydawnictwo Politechniki Gdańskiej, Gdańsk 1995.</p>	
	eResources addresses	<p>Chemia dla kierunku Inżynieria Środowiska (studia niestacjonarne) - semestr letni 2021/2022 - Moodle ID: 19562 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=19562</p>	
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> Determinations and measurements of selected water components. Chemical calculations (including stoichiometric calculations; concentration of solutions; concentrations and loads of water/wastewater admixtures and contaminants) 		
Work placement	Not applicable		