



Subject card

Subject name and code	Chemistry, PG_00044685						
Field of study	Civil Engineering						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2021/2022		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		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. Małgorzata Szopińska				
	Teachers		dr inż. Alina Wargin				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	5.0	10.0	0.0	0.0	15
	E-learning hours included: 0.0						
	Adresy na platformie eNauczenie:						
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	15		5.0		30.0	50
Subject objectives	<p>Mastering the basic knowledge of general chemistry needed for further study of major subjects.</p> <p>To familiarize students with basic laboratory equipment and laboratory work.</p> <p>Developing skills in performing chemical calculations, own laboratory work, honest preparation of results and drawing conclusions from conducted experiments.</p>						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W01] has knowledge of selected branches of mathematics, physics and chemistry, which is a base of construction subjects, such as construction theory and material technology and id needed to formulate and solve typical problems of civil engineering		01 - knows and understands the basic concepts and laws of general chemistry discussed during classes, and knows how to apply them to describe chemical processes; 02 - can use the known laws and dependencies for chemical calculations (in particular regarding the concentration of solutions, pH); 03 - uses laboratory equipment to perform and interpret simple quantitative determinations; 04 - is aware of the dangers which may occur in a chemical laboratory and knows and compiles the health and safety rules.				
	[K6_W71] has general knowledge in humanistic, social, economic or legal sciences		01 - student can work in a small team to perform chemical determinations and prepare reports using results obtained during the experiments;				

Subject contents	The following issues will be discussed as part of the accounting part		
	(1) (1) mole, molar mass, acids and bases, stoichiometry		
	(2) concentrations and solutions		
	(3) gas laws		
	The following exercises will be performed during the laboratory part:		
	EXERCISE 1. The aggressive carbon dioxide		
	EXERCISE 2. Acidity and alkalinity		
EXERCISE 3. Water hardness			
Prerequisites and co-requisites	Basic term and laws of chemistry. The structure of the atom (atomic nucleus, electronic structure of the atom). Periodic table of elements and the law of periodicity. Classes of chemical compounds. Types of chemical reactions. Equilibria in aqueous electrolyte solutions.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final test	60.0%	50.0%
	laboratory	60.0%	50.0%
Recommended reading	Basic literature	Jerzy Prejzner Chemistry auditorium exercises for students of hydrotechnics, Publisher: Gdansk University of Technology.	
	Supplementary literature	Obliczenia chemiczne, praca zbiorowa pod red. J. Ciby, Wyd. Pol. Śl., Gliwice 2005.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		