

关。GDAŃSK UNIVERSITY 多 OF TECHNOLOGY

Subject card

Environmental Chemistry, PG_00036268							
Green Technologies							
October 2021		Academic year of realisation of subject			2022/2023		
first-cycle studies		Subject group			Optional subject group Subject group related to scientific research in the field of study		
Full-time studies		Mode of delivery			at the university		
2					Polish		
3		ECTS credits			6.0		
general academic profile					assessment		
Department of Inorga	nic Chemistry ·	-> Faculty of C	hemistry				
Teachers							
Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM
Number of study hours	30.0	0.0	30.0	0.0		0.0	60
-					i		
Learning activity			Participation in consultation hours		Self-study		SUM
Number of study hours	60	15.0			75.0		150
chemistry of the atmo	sphere, water onment. Familia	and soil. Prese	entation of geod	chemica	l cycles	s of the most i	mportant
Course outcome		Subject outcome			Method of verification		
[K6_U04] capable of formulating and solving design tasks in the field of environmental technology to recognize their non-technical aspects, including environmental, economic and legal. Is capable of applying the principles of occupational health and safety. Is able to make initial assessment of engineering solutions and actions		The student notices nontechnical, including environmental, aspects of technologies used in environmental protection. Applies the principles of occupational health and safety.			[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools		
of chemistry including general chemistry, inorganic, organic, physical, analytical, including the knowledge necessary to describe and understand the phenomena and chemical processes occurring in the environment; measurement and the determination of the parameters of these processes. [K6_W03] has a basic knowledge of soil, air and water pollutants, design and supervision of environmentally friendly technologies and technologies		in the field of chemistry necessary to describe and understand phenomena and chemical processes occurring in the natural environment. Knows the basics of the methods used for measuring the level of environmental pollution. The student has basic knowledge in the field of soil, air and water protection against pollution and the theoretical basis of methods and types of apparatus used in the analysis of environmental pollution.			[SW1] Assessment of factual knowledge		
	Green Technologies October 2021 first-cycle studies Full-time studies 2 3 general academic pro Department of Inorga Subject supervisor Teachers Lesson type Number of study hours E-learning hours inclu Learning activity Number of study hours E-learning hours inclu Learning activity Subject supervisor Course outs (K6_U04) capable of and solving design ta field of environmenta to recognize their nor aspects, including er economic and legal. applying the principal occupational health a able to make initial a engineering solutions [K6_W02] has a basi of chemistry including chemistry, inorganic, physical, analytical, i nowledge necessar and understand the p and chemical process in the environment; n and the determinatio parameters of these [K6_W03] has a basi of soil, air and water design and supervisi environmentally frien technologies and tec which do not produce knows technology of neutralization of indu a basic understandin theoretical basis of n	Green Technologies October 2021 first-cycle studies Full-time studies 2 3 general academic profile Department of Inorganic Chemistry Subject supervisor Teachers Lesson type Lecture Number of study hours E-learning hours included: 0.0 Learning activity Familiarize students with the basics chemistry of the atmosphere, water elements in the environment. Familia and methods of detection. Course outcome [K6_U04] capable of formulating and solving design tasks in the field of environmental technology to recognize their non-technical aspects, including environmental, economic and legal. Is capable of applying the principles of occupational health and safety. Is able to make initial assessment of engineering solutions and actions [K6_W02] has a basic knowledge of chemistry including general chemistry, inorganic, organic, physical, analytical, including the and methods of these processes. [K6_W03] has a basic knowledge of soil, air and water pollutants, design and supervision of environmentally friendly technologies and technologies which do not produce waste, knows technology of cleaning and neutralization of industrial waste and wastewater management, has a basic understanding of the theoretical basis of methods and	Green Technologies October 2021 Academic realisation first-cycle studies Subject grownels Full-time studies Mode of de 2 Language 3 ECTS cred general academic profile Assessment Department of Inorganic Chemistry -> Faculty of C Subject supervisor dr hab. in2. A Teachers Intorial Lesson type Lecture Tutorial Number of study hours 30.0 0.0 Number of study hours 60 Feamiliarize students with the basics of chemical prochemistry of the atmosphere, water and soil. Prese elements in the environment. Familiarization with thand methods of detection. Subject grownel students with the basics of chemical prochemistry of the atmosphere, water and soil. Prese elements in the environment. Familiarization with the field of environmental technology and solving design tasks in the field of environmental technology to recognize their non-technical aspects, including environmental, aspects, including environmental, specifical analytical, including the principles of occupational health and safety. Is able to make initial assessment of engineering solutions and actions The student hi in the field of environmental technology or the environment measurement and the determination of the parameters of these processes. The student hi in the field of environmental scribe ary phenomena a phenomena an chemical processes occurring in the environment, measuremen	Green Technologies Academic year of realisation of subject first-cycle studies Subject group Full-time studies Mode of delivery 2 Language of instruction 3 ECTS credits general academic profile Assessment form Department of Inorganic Chemistry -> Faculty of Chemistry Subject supervisor dr hab. in2. Agnieszka Pladz Teachers Image: Students with the basis of chemical point of study plan Number of study hours 30.0 0.0 E-learning hours included: 0.0 Learning activity Participation in didactic classes included in study plan Participation in consultation for somultation for somultation for somultation for somultation for and methods of detection. Romeins in the environment. Familiarization with the most import and methods of detection. The student notices nontech including environmental, espects of the principles of occupational health and safety. Suble to make initial assessment of engineering solutions and actions field of environmental, including environmental processes occurring in the environment; measurement and chemical processes occurring in the environment; measurement and chemical processes occurring in the environment; measurement and chemical processes occurring in the environment; measurement and hedetermination of the parameters of these processes occurring in the environmental processes occurring in the environment; measurement and wastewater management, has a basic	Green Technologies October 2021 Academic year of realisation of subject first-cycle studies Subject group Full-time studies Mode of delivery 2 Language of instruction 3 ECTS credits general academic profile Assessment form Department of Inorganic Chemistry -> Faculty of Chemistry Subject supervisor dr hab. inz. Agnieszka Pladzyk Teachers Tutorial Laboratory Project Number of study hours 30.0 0.0 30.0 0.0 E-learning hours included: 0.0 E-learning nours included: 0.0 Earning activity Participation in didactic classes included in study plan Participation in consultation hours Number of study hours 60 15.0 Image: Consultation formical processes occurring in th chemistry of the atmosphere, water and soil. Presentation of geochemica elements in the environment. Familiarization with the most important environmental, aspects of technologies used in environmental, aspects of economic and legal. Is cabable of applying the principles of occupational health and safety. The student has basic knowledge of chemistry including general chemistry including general chenvironment. Knows technologies which do no	Green Technologies Academic year of realisation of subject 2022 October 2021 Academic year of realisation of subject 2022 first-cycle studies Subject group Optio Full-time studies Mode of delivery at the 2 Language of instruction Polish 3 ECTS credits 6.0 general academic profile Assessment form asses Department of Inorganic Chemistry -> Faculty of Chemistry Subject supervisor dr hab. in2. Agnieszka Pladzyk Teachers Intorial Laboratory Project Lesson type Lecture Tutorial Laboratory Project Number of study 30.0 0.0 30.0 0.0 Number of study 60 15.0 75.0 Familiarize students with the basics of chemical processes occurring in the natural chemical cycles of decision of geochemical cycles elements in the environment. Familiarization with the most important environmental espects. Including environmental, aspects of technology to descript assks in the field of environmental, aspects of cocupational health and safety. [SU4] R64, U04] capable of formulating and chemical processes occurring in the natural environmental, aspects of occupational health and safety. [SU4]	Green Technologies Academic year of realisation of subject 2022/2023 October 2021 Academic year of realisation of subject 2021/2023 first-cycle studies Subject group Optional subject group relatives research in the field Full-time studies Mode of delivery at the university 2 Language of instruction Polish 3 ECTS credits 6.0 general academic profile Assessment form assessment Department of Inorganic Chemistry -> Faculty of Chemistry Subject supervisor dr hab. inż. Agnieszka Pladzyk Teachers Tutorial Laboratory Project Seminar Number of study 30.0 0.0 30.0 0.0 0.0 Number of study Participation in didactic classes included in study plan Participation in consultation hours Self-study Number of study of the atmosphere, water and soil. Presentation of geochemical cycles of the most included in study assessment of economical processes occurring in the natural environmental pollutants and methods of detection. Te student notices nontechnical, fully Assessment of economical processes occurring in the natural environmental pollutants adactor. [SW1] Assessment of environmental pollutants, adactor. (6, UO4) capable of formulating environmental profect

Subject contents	Atmospheric chemistry. Aquatic chemistry. Soil chemistry. Persistent organic pollutants in the environment. Carbon cycle. Nitrogen cycle. Phosphorus cycle. Oxygen and sulfur cycle. The role of the chemical elements in living organisms. "Heavy" metals and micronutrients. Environmental analytics. Methods of measuring the degree of pollution. Remote pollution measurement methods.					
Prerequisites and co-requisites	Passed course of Inorganic Chemistry					
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade			
	Laboratory reports	60.0%	30.0%			
	Written exam	60.0%	70.0%			
Recommended reading	Basic literature	1. Gary W vanLoon and Stephen J Duffy, Environmental Chemistry, Oxford University Press				
	Supplementary literature	1. S. Manahan, Environmental Chemistry, CRC Press, 2009				
	eResources addresses	Adresy na platformie eNauczanie:				
Example issues/ example questions/ tasks being completed						
Work placement	Not applicable					