



Subject card

Subject name and code	Introduction to Environmental Science, PG_00049190						
Field of study	Chemical Technology						
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		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Analytical Chemistry -> Faculty of Chemistry						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Paweł Kubica				
	Teachers		dr inż. Paweł Kubica				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	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	30		2.0		18.0	50
Subject objectives	Students are familiarized with the fundamentals about environmental issues.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K6_K02		Student understands the impact of undertaken technological activities on the environment. In addition, Student can use the principles of professional ethics.		[SK5] Assessment of ability to solve problems that arise in practice		
	K6_W12		The student knows and understands the terms used in environmental protection and processes affecting the environment.		[SW1] Assessment of factual knowledge		
	K6_W03		The student knows the issues related to the impact of technological processes on the environment. Students can: - class technological solutions because of their environmental nuisance - to use in practice referred to technological solutions.		[SW1] Assessment of factual knowledge		
	K6_U05		Student is able to recognize dependencies between technological processes and understands its influence on the environment.		[SU2] Assessment of ability to analyse information		
Subject contents	Basic information about the environment and its components. Classifications sources of emissions to the environment due to: - Sources of emissions: - Nature of human activity - The range of the impact of emission sources. Classification of processes due to: - Degree of impact to the environment - How to eliminate the impact of technological systems on the environment. Basic information on how to waste gas, waste water treatment and utilization of by-products and waste. Presentation of the basic processes and responses, which are subject to contamination at the stage of environmental emissions. Discussion of the basic techniques of environmental protection against pollution (protection of restoration, remediation and prevention technologies, emissions). The importance of the various elements of the environment for technological processes.						
Prerequisites and co-requisites	Knowledge of the fundamentals of chemistry						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exam	60.0%	100.0%
Recommended reading	Basic literature	1. J. H. Rule, Problemy nauki o środowisku, Wydawnictwo UMCS, Lublin 1994 2. B. J. Alloway, D. C. Ayres, Chemiczne podstawy zanieczyszczenia środowiska, Wydawnictwo Naukowe PWN, Warszawa, 1999 3. E. U. von Weizsacker, A. B. Lowins, L. H. Lovins, mnożnik cztery (podwojony dobrobyt – dwukrotnie mniejsze zużycie zasobów naturalnych), Wydawnictwo „Rolewski”, Toruń, 1999 4. P. O'Neill, Chemia środowiska, Wydawnictwo Naukowe PWN, Warszawa, 1997 5. A. Johansson, Czysta technologia, Środowisko- Technika- Przyszłość, WNT, Warszawa, 1997	
	Supplementary literature	1. S. F. Zakrzewski, Podstawy toksykologii środowiska, Wydawnictwo Naukowe PWN, Warszawa, 1995	
	eResources addresses	Adresy na platformie eNauczanie: Wstęp do Wiedzy o Środowisku TCh i ZT 2022/2023 - Moodle ID: 20754 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=20754	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

Document generated electronically. Does not require a seal or signature.