

Subject card

Subject name and code	Toxicology, PG_00081948						
Field of study	Chemistry						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Toxicology and Radiation Protection -> Department of Environmental Chemistry and Radiochemistry -> Faculty of Chemistry -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Dagmara Strumińska-Parulska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		2.0		8.0	25
Subject objectives	introducing students to the basics of toxicology, familiarizing students with the issues mentioned in the lecture program content,						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[CHEML3_U01] Identifies, analyses and solves problems in the field of broadly understood chemistry on the basis of the acquired knowledge.	1. is able to determine the risk of toxic substances in the human environment, 2. is aware of surrounding, easily accessible poisonous substances,	[SU4] test/exam - oral or written
	[CHEML3_W02] Describes the properties of elements and the most important chemical compounds, enumerates the methods of their preparation and methods of analysis.	DO USUNIĘCIA	[SW5] implementation of a problem task
	[CHEML3_U08] Presents in an understandable way the basic facts about chemistry using a scientific language typical of chemical sciences.	1. uses correct toxicological terminology, 2. identifies domestic poisonous plants, 3. uses professional toxicological literature.	[SU4] test/exam - oral or written
	[CHEML3_W03] Explains the relationship between the structure of matter and its observed properties.	1. knows the types and course of poisonings and general principles of prevention against poisonings, 2. knows the structure and toxicodynamic properties of selected heavy metals, 3. knows domestic and selected foreign poisonous plants and the structure and properties of the basic active substances contained in them, 4. knows the risk associated with the use of pesticides and selected food additives,	[SW4] test/exam - oral or written
	[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	1. knows the goals and tasks of toxicology, 2. knows and understands terminology and basic concepts in the field of toxicology, 3. knows the general ideas of toxicology,	[SW4] test/exam - oral or written
Subject contents	History and milestones in toxicology. Tasks of toxicology. Poisons, poisonings - types and their causes. Basic toxicological concepts and relationships. Basic factors determining the possibility of harmful effects of xenobiotics on living organisms. Dose-effect relationship. Pathways of absorption and excretion of poisons, their structure and fate of the poison in the human body (ADME). Mechanisms of toxic action and detoxification mechanisms. Chemical safety. Toxicometry. Principles and scope of toxicometric tests, experimental animals, alternative methods of toxicity testing. Determining safe values (NDS, NOAEL, LOAEL, ADI., MRL, MCL). Poisonous plants and their active substances. Toxicity of pesticides, food additives and selected heavy metals and their compounds.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written test	51.0%	100.0%
Recommended reading	Basic literature	Seńczuk W (red.): Toksykologia współczesna Piotrowski J.K. (red.): Podstawy toksykologii. Kompendium dla studentów szkół wyższych	
	Supplementary literature	-	
	eResources addresses		
Example issues/ example questions/ tasks being completed	lecture content		
Work placement	Not applicable		

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