

**Subject card**

<b>Subject name and code</b>	Food Radiochemistry and Radiation Protection, PG_00082064						
<b>Field of study</b>	Chemistry						
<b>Date of commencement of studies</b>	October 2024	<b>Academic year of realisation of subject</b>			2026/2027		
<b>Education level</b>	Bachelor's studies	<b>Subject group</b>			Obligatory subject group in the field of study		
<b>Mode of study</b>	full-time studies	<b>Mode of delivery</b>			at the university		
<b>Year of study</b>	3	<b>Language of instruction</b>			Polish		
<b>Semester of study</b>	5	<b>ECTS credits</b>			1.0		
<b>Learning profile</b>	academic	<b>Assessment form</b>			credit		
<b>Conducting unit</b>							
<b>Name and surname of lecturer (lecturers)</b>	<b>Subject supervisor</b>		dr hab. Dagmara Strumińska-Parulska				
	<b>Teachers</b>						
<b>Lesson types</b>	<b>Lesson type</b>	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	<b>Number of study hours</b>	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
<b>Learning activity and number of study hours</b>	<b>Learning activity</b>	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	<b>Number of study hours</b>	15		2.0		8.0	25
<b>Subject objectives</b>	familiarizing students with all issues mentioned in the lecture program content						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[CHEML3_W02] Describes the properties of elements and the most important chemical compounds, enumerates the methods of their preparation and methods of analysis.	1. knows and understands the basic concepts related to radiochemistry, radiology and radiotoxicity, 2. knows natural and artificial radioactive elements in the environment and their sources, 3. has knowledge about the sources of radionuclides in the human body,	[SW4] test/exam - oral or written
	[CHEML3_K08] Formulates opinions in the field of science with caution and criticism in their expression.	1. understands the need for further education in the field of monitoring radiochemical contamination of the environment, 2. demonstrates creativity in limiting the absorption of radionuclides by humans and raises public awareness of the effects of excessive incorporation of radionuclides,	[SK4] test/exam - oral or written
	[CHEML3_W05] Has basic knowledge of the chemical specialisation studied.	1. has knowledge about the impact of ionizing radiation on living matter, 2. understands the concept of radiotoxicity and knows its groups, 3. understands the radiological effects of radionuclide intake by humans through breathing, eating food and smoking cigarettes,	[SW4] test/exam - oral or written
	[CHEML3_K07] Appreciates the need for understandable presentation of selected chemical issues to the public.	is able to convey knowledge to society about the sources of radiochemical contamination in building materials,	[SK4] test/exam - oral or written
	[CHEML3_W11] Defines the basic principles of occupational health and safety and ergonomics necessary for the proper organization of learning.	1. has knowledge about radiochemical threats to the environment and people around the phosphogypsum heap in Wiślinka, 2. knows the goals and tasks of monitoring radioactive contamination of the environment	[SW4] test/exam - oral or written
	[CHEML3_U02] Performs analyses using experimental methods and draws conclusions based on them.	1. is able to assess the most important radioactive threats to humans and knows how to reduce them, 2. is able to assess radiological threats arising from local or global contamination of radioactivity.	[SU4] test/exam - oral or written
	[CHEML3_U08] Presents in an understandable way the basic facts about chemistry using a scientific language typical of chemical sciences.	1. understands the basic concepts of radiochemistry and radiotoxicology, 2. recognizes the most important natural and artificial radionuclides contained in humans,	[SU4] test/exam - oral or written
[CHEML3_U04] Plans and performs simple chemical experiments and analyses the results obtained.	can estimate the radiological effects of human absorption of radionuclides from air, water and food and as a result of smoking cigarettes,	[SU4] test/exam - oral or written	
Subject contents	Basic concepts of radiochemistry and radiological protection. Radioactive elements. Radiotoxicity and its groups. Sources of radioactive contamination in the natural environment. Human absorption of radionuclides from air, food and water and assessment of radiation doses. Selected food products and their impact on the dose received. Radiological effects of cigarette smoking.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam	51.0%	100.0%
Recommended reading	Basic literature	Skwarzec, Radiochemia środowiska i ochrona radiologiczna, Wydawnictwo DJ s.c, Gdańska, 2002,  Szymański W., Chemia jądrowa, PWN, Warszawa 1996	
	Supplementary literature	-	
	eResources addresses		

Example issues/ example questions/ tasks being completed	-
Work placement	Not applicable

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