



Projekt współfinansowany przez Unię Europejską w ramach Europejskiego Funduszu Społecznego



	NARODOWA STRATEGIA SPÓJNOŚCI		go Fundusz cznego	FUNDUSZ SPOŁECZNY
Course title				ECTS code
Food Radiochemistry and Radiation Protection				13.3.0848
Name of unit admi	inistrating study			
null				
Studies				
faculty	field of study	typo	pierwszego s	etonnia
Wydział Chemii	Chemia form staci			зорна
,			chemia żywn	ności
		specialization	•	
Teaching staff				
Moniakowska	Strumińska-Parulska, profeso the realization and number of		audia Block-	Łaszewska; dr Grzegorz Olszewski; mgr Aleksandra ECTS credits
Forms of classes			2	
Laboratory class			classes - 45 h	
The realization of			tutorial classes – 2 h	
classroom instru			student's own work – 3 h	
Number of hours				
Lecture: 15 hours	S	Total: 50 h - 2 ECTS		
The academic cyc	•	-	,	
2024/2025 winte	r semester			
Type of course	Languag	Language of instruction		
obligatory	polish	polish		
Teaching methods		Form an	Form and method of assessment and basic criteria for eveluation or	

Type of course	Language of instruction
obligatory	polish
Teaching methods	Form and method of assessment and basic criteria for eveluation or examination requirements
- conducting experiments	Final evaluation
- multimedia-based lecture	Graded credit
	Assessment methods
	- written exam with open questions
	- written exam (test)
	- graded course credit based on individual grades obtained during the
	semester
	- written exam: 10 open questions and 10 test questions
	The basic criteria for evaluation
	Writing exam
	1. Evaluation criteria in accordance with the UG Studies Regulations;
	2. Positive mark from the written exam: 10 open questions and 10 test questions on the
	basis of the lecture's program
	3. Positive mark from the written test: 10 open questions

Method of verifying required learning outcomes

Required courses and introductory requirements

A. Formal requirements

none

B. Prerequisites

none

Aims of education

Radiochemia żywności i ochrona radiologiczna #13.3.0848

Sylabusy - Centrum Informatyczne UG Dział Kształcenia



Acquaint the students with radiochemistry and radiation protection

Course contents

A. Lecture

Radioactive elements in nature. Ionizing radiation doses. 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. Radiological effects of smoking cigarettes. Impact of catastrophes in the nuclear power plants in Chernobyl and Fukushima on radioactive contamination of food. Radioactivity of building materials. Monitoring of radioactive contamination.

B. Laboratory experiments

food samples collecting for 210Po, 234U, 238U and 239+240Pu activities determination

Bibliography of literature

Literature required to pass the course

- B. Skwarzec, Radiochemia środowiska i ochrona radiologiczna, Wydawnictwo DJ s.c, Gdańska, 2002
 - J. Sobkowski i M. Jelińska-Każmierczuk, Chemia jądrowa, Wydawnictwo Adamantan, Warszawa, 2006
 - A.2. studiowana samodzielnie przez studenta
- B. Skwarzec, Radiochemia środowiska i ochrona radiologiczna, Wydawnictwo DJ s.c, Gdańska, 2002
- J. Sobkowski i M. Jelińska-Każmierczuk, Chemia jądrowa, Wydawnictwo Adamantan, Warszawa, 2006 Extracurricular readings

W. Szymański, Chemia jądrowa, PWN, Warszawa 1996

The learning outcomes (for the field of study and specialization)

Knowledge

- 1. knows and understands the basic concepts of radiochemistry, radiology and radiotoxicity,
- 2. has knowledge about the influence of ionizing radiation on living organisms,
- 3. knows the natural and artificial radioactive elements in the environment and sources of their origin,
- 4. understands the concept of radiotoxicity and knows its groups,
- 5. has knowledge about the origin of radionuclides in the human body,
- 6. understands the radiological effects of the collection of radionuclides by humans as a result of breathing, eating and smoking,
- 7. knows what are the radiological effects of radionuclides content in building materials,
- 8. knows the radiological effect of the catastrophes at Chernobyl and Fukushima nuclear power plants,
- knows the goals and tasks of monitoring environmental radioactive contamination.

Skills

- 1. understands the basic concepts of radiochemistry and radiotoxicology,
- 2. recognizes the most important natural and artificial radionuclides contained in
- 3. can assess the radiological consequences of human absorption of radionuclides from the air, water and food and as a result of smoking,
- 4. is able to assess the impact of building materials on the radiation dose coming from inhalation of radon and sees the need to introduce a radon norm.
- 5. is able to assess the most important radioactive hazards for humans and knows how to reduce them,
- 6. is able to assess radiological threats arising as a result of local or global contamination of radioactivity.

Social competence

- 1. understands the need for further education in the field of monitoring of radiochemical contamination of the environment,
- 2. demonstrates creativity in limiting the absorption of radionuclides by humans and makes the society aware of the effects of excessive incorporation of radionuclides,
- 3. can transfer knowledge in the society about sources of radiochemical contamination in building materials,

Contact

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