


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Graduate study lecture - Fundamentals of radiation protection		13.3.1098	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Chemii	Chemia	form	stacjonarne
		specjalty	wszystkie
		specialization	wszystkie
Teaching staff			
dr hab. Dagmara Strumińska-Parulska, profesor uczelni			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		3	
Lecture		classes - 30 h	
The realization of activities		tutorial classes – 10 h	
classroom instruction		student's own work – 35 h	
Number of hours		Total: 75 h - 3 ECTS	
Lecture: 30 hours			
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
obligatory		polish	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
multimedia-based lecture		Final evaluation	
		Graded credit	
		Assessment methods	
		- written exam (test)	
		- test with 20 questions	
		The basic criteria for evaluation	
		Writing exam	
		1. Evaluation criteria in accordance with the UG Studies Regulations;	
		2. Positive mark from the oral exam and activity during the classes	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
none			
B. Prerequisites			
none			
Aims of education			
Acquaint the students with radiation protection			
Course contents			
Ionizing radiation. Sources of ionizing radiation. Biological effect of ionizing radiation. Differences in the biological effectiveness of individual types of ionizing radiation. Radiation doses and dose equivalent. Radiation Exposure. Dosimetric instruments. Basic principles and standards of radiation protection; professionally exposed staff and patients. Preventive examinations and case-law regarding radiation damage.			
Bibliography of literature			

Literature required to pass the course

Dahlgaard H., Nordic Radioecology: The Transfer of Radionuclides through Nordic Ecosystems to Man, Elsevier, 1994,
 Frontasyeva M., Perelygin V., Vater P., Radionuclides and Heavy Metals in Environment, Springer, 2001
 Stabin M., Radiation Protection and Dosimetry, Springer, 2007.

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

1. knows and understands the basic concepts related to radiochemistry, radiology, radiotoxicity and radiation protection,
2. has knowledge of the impact of ionizing radiation on living organisms,
3. understands the concept of radiotoxicity and knows its groups,
4. has knowledge of the sources of origin of radionuclides in the human body,
5. knows how to counter exposure to ionizing radiation,
6. knows what are the radiological effects of radionuclide content in building materials,
7. knows the radiological effect of disasters at the Chernobyl and Fukushima nuclear power stations,
8. knows the basic standards of radiation protection.

Skills

1. understands the basic concepts of radiochemistry and radiotoxicology,
2. knows how to assess the radiological effects of human absorption of radionuclides from air, water and food, and as a result of smoking,
3. is able to assess the most important radioactive threats to humans and knows how to limit them,
4. has the ability to calculate radiation doses and weaken ionizing radiation through shields.

Social competence

1. understands the need for further education in the field of radiation protection,
2. shows creativity in limiting the absorption of radionuclides by humans and makes society aware of the effects of excessive incorporation of radionuclides,
3. is able to transfer knowledge in society about the sources of radiochemical contamination and the possibilities of reducing exposure to ionizing radiation,

Contact

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