


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Monographic lecture - Radiosensitizers - in the service of oncology		13.3.0884	
Name of unit administrating study			
Faculty of Chemistry			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Chemii	Chemia	form	stacjonarne
		specjalty	wszystkie
		specialization	wszystkie
Teaching staff			
dr Lidia Chomicz-Mańka			
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			
2023/2024 winter 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	
- Led discussion		Graded credit	
		Assessment methods	
		- Written or oral exam	
		- (mid-term / end-term) test	
		The basic criteria for evaluation	
		To complete the course, students need to correctly answer at least 51% questions from written exam test. People who do not get the required threshold during written test, take an oral exam	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
Required courses: Physical and Organic Chemistry			
B. Prerequisites			
Introductory requirements:			
- knowledge of the structure and biosynthesis of DNA			
- knowledge of the types and role of electromagnetic radiation			
- the ability to present the mechanisms of simple radical reactions.			
Aims of education			
The aims are:			
to acquaint students with the basics of cancer treatment, with particular emphasis on radiotherapy and the role of radiosensitizers			
to develop the ability to describe the processes and reactions taking place in cancer cells during irradiation with high-energy radiation			
to develop skills to describe the mechanisms of action of basic types of radiosensitizers			

Course contents	
<p>Carcinogens, basics of tumor biology, cancer cell hypoxia, survival of patients with malignant tumors, tumor markers and selected laboratory indicators, cancer treatment methods, chemotherapy, hormonal therapy, photodynamic therapy, targeted therapy, radiotherapy, combination therapy (including chemoradiotherapy), side effects of radiotherapy, radioprotectors and radiosensitizers, direct and indirect effects of irradiation with ionizing radiation, water radiolysis products, radiation-induced DNA damage, hydroxyl radical, hydrated electrons, types of radiosensitizers, uracil derivatives as radiosensitizers, oxygen mimetics, novel anticancer drugs and treatments as well as official procedures for their introduction into clinical practice, unconventional activities in oncology.</p>	
Bibliography of literature	
<p>Literature required to pass the course</p> <ol style="list-style-type: none"> 1. „Onkologia. Podręcznik dla studentów i lekarzy” red. Radziśław Kordek; Via Medica, Gdańsk 2007. 2. „Chemical Radiosensitizers for Use in Radiotherapy” P. Wardman, Clinical Oncology (2007) 19: 397-417. 3. „Basic Clinical Radiobiology” ed. Michael Joiner, Albert van der Kogel; Hodder Arnold, Londyn 2009. 4. „ Free-Radical-Induced DNA Damage and its Repair. A Chemical Perspective” Clemens von Sonntag; Springer, Berlin 2006. <p>Extracurricular readings</p> <ol style="list-style-type: none"> 5. „Druga twarz tlenu” Grzegorz Bartosz; Wydawnictwo Naukowe PWN, Warszawa 2003 	
The learning outcomes (for the field of study and specialization)	Knowledge
	Skills
	Social competence
Contact	
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