


KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
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FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Monographic lecture - Interactions of antimicrobials agents with metalions		13.3.0987	
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 inż. Małgorzata Gawrońska			
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 – 5 h	
classroom instruction		student's own work – 40 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 eveluation or examination requirements	
- discussion		Final evaluation	
- multimedia-based lecture		Graded credit	
		Assessment methods	
		- written test with open questions (tasks)	
		- (mid-term / end-term) test	
		The basic criteria for evaluation	
		A positive result is required to pass the lecture (> 51%)	
		from the exam, which consists of about 10 open questions (tasks) covering issues mentioned in the lecture's program content. The percentage result of the exam translates into the final grade in the manner indicated in the applicable "UG Study Regulations".	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
Completed course in "General Chemistry", "Inorganic Chemistry", "Organic Chemistry".			
B. Prerequisites			

Knowledge of the basics of general, inorganic and organic chemistry.	
Aims of education	
<p>Acquainting with the chemistry of antimicrobial agents, ie their chemical structure, nomenclature (chemical and international names);</p> <p>Acquainting with the synthesis methods of the most important antimicrobial drugs;</p> <p>Familiarization with known mechanisms of action of selected antibacterial and antifungal drugs;</p> <p>Acquainting with the methods of searching for new, potential antimicrobial drugs;</p> <p>Acquainting with the methods of creating complexes of antimicrobial drugs with metal ions;</p>	
Course contents	
<p>Characteristics of antimicrobial drugs; b-lactam antibiotics; aminoglycoside antibiotics; tetracycline antibiotics; macrolide antibiotics, peptide antibiotics, ansamycin antibiotics; chloramphenicol group, quinolones, sulfoamides, spiran antibiotics, imidazole and triazole derivatives, antimetabolites; the mechanism of action of individual antimicrobials; therapeutic index; the purpose of the drug; lead structure; drug resistance; pharmacodynamics of antibiotics (MIC, MBC); physicochemistry of complexes; presentation of examples of anticancer drugs based on metal ion complexes.</p>	
Bibliography of literature	
<p>A. Zejca, M. Gorczyca „Chemia leków”, wyd. PZWL, warszawa 2004</p> <p>Z. Markiewicz, Z. A. Kwiatkowski „Bakterie, antybiotyki, lekooporność”, wyd. PWN, Warszawa 2012</p> <p>R.B. Silverman, „Chemia organiczna w projektowaniu leków”, wyd. WNT, Warszawa, 2004</p> <p>S.J. Lippard, J.M. Berg – Podstawy chemii bionieorganicznej</p>	
The learning outcomes (for the field of study and specialization)	Knowledge
	<p>Knows and recognizes antimicrobials;</p> <p>uses terminology related to the naming of antimicrobials and their construction;</p> <p>can indicate the decisive functional groups with chemical and physical properties</p>
	Skills
	<p>knows how to plan the synthesis of the selected antimicrobial drug</p> <p>understands and can explain the importance of complex compounds (complex: antimicrobial compound - metal ion)</p>
	Social competence
	<p>understands the importance of antimicrobial drugs in everyday life;</p> <p>understands the importance of searching for new antimicrobials;</p> <p>understands the importance of searching for complex compounds (antimicrobial compound - metal ion)</p>
Contact	
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