


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Bioorganic chemistry		13.3.0385	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	drugiego stopnia
Wydział Chemii	Chemia	form	stacjonarne
		specjalty	chemia biomedyczna
		specialization	wszystkie
Teaching staff			
dr hab. Anna Łęgowska, profesor uczelni			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		2	
Lecture		classes 45 h	
The realization of activities		Tutorial classes 2 h	
classroom instruction		Student's own work 3 h	
Number of hours		TOTAL: 50 h - 2 ECTS	
Lecture: 15 hours			
The academic cycle			
2022/2023 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	
		Examination	
		Assessment methods	
		written exam with open questions	
		The basic criteria for evaluation	
		positive grade from written test consisting of 12-20 open questions comprising issues listed in the program content (lecture)	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements			
B. Prerequisites			
basic knowledge of inorganic and coordination chemistry			
Aims of education			
<ul style="list-style-type: none"> familiarity with the problems occurring on the border of chemical, biological and medical sciences introduction of both basic and specialized knowledge of biochemistry (in particular, information about the role that bio-elements such as iron, copper, zinc, cobalt, manganese, nickel and chromium, play in living organisms) 			
Course contents			
Bioorganic chemistry - explanation of the term, foundations; Review of the most important groups of compounds (sugars, lipids, proteins and amino acids, vitamins - coenzymes, DNA / RNA) necessary for life; Biological demand for metals and inorganic compounds; The functions of metal ions in proteolysis. Methods of studies on bioinorganic compounds. Redox reactions with electron transfer in biological systems. Oxygen transfer and transport processes in cells. Circulation of nitrogen at the molecular level. Metal physiology. Medical chemistry of inorganic compounds. Environmental chemistry of bioinorganic compounds			
Bibliography of literature			
Literature required to pass the course			

<p>A.2. Literature for individual studies:</p> <p>L. Stephen, B. Jeremy – Podstawy chemii bioorganicznej</p> <p>R. M. Roat-Malone – Bioinorganic Chemistry: A Short Course</p> <p>E. Ochiai – Bioinorganic Chemistry: a survey</p> <p>Extracurricular readings</p> <p>Bioinorganic Chemistry and Applications – science magazine</p>	
<p>The learning outcomes (for the field of study and specialization)</p>	<p>Knowledge</p> <p>Student knows and understands the law, concepts and phenomena on the border of three areas: chemistry, biology and medicine.</p>
	<p>Skills</p>
	<p>Social competence</p> <p>Student understands the need for further education. can formulate questions precisely to deepen understanding of a given topic or to find missing elements of reasoning; understands and appreciates the importance of intellectual honesty in own and other people's actions; act ethically; understands the need for popular presentation of selected issues in chemistry to non-specialists; can independently search for information in literature, including foreign language.</p>
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