



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

Projekt współfinansowany przez
Unię Europejską w ramach
Europejskiego Funduszu
Społecznego

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Course title		ECTS code	
Spectroscopy of biological systems		13.2.0428	
Name of unit administrating study			
Faculty of Mathematics, Physics and Informatics			
Studies			
faculty	field of study	type	first tier studies (BA)
Faculty of Mathematics, Physics and Informatics	Medical Physics	form	full-time
		specialty	all
		specialization	all
Teaching staff			
prof. dr hab. Piotr Bojarski; dr Illia Serdiuk; dr Anna Synak			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		2	
Wykład (to translate), Ćw. laboratoryjne (to translate)			
The realization of activities			
blended learning, lectures in the classroom			
Number of hours			
Wykład (to translate): 15 hours, Ćw. laboratoryjne (to translate): 15 hours			
2021/2022 summer semester			
Type of course		Language of instruction	
elective (to translate)		english	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
<ul style="list-style-type: none"> - Rozwiązywanie zadań (to translate) - Wykład z prezentacją multimedialną (to translate) 		Final evaluation	
		Zaliczenie na ocenę (to translate)	
		Assessment methods	
		<ul style="list-style-type: none"> - zaliczenie ustne (to translate) - wykonanie pracy zaliczeniowej - wykonanie określonej pracy praktycznej (to translate) - egzamin ustny (to translate) 	
		The basic criteria for evaluation	
Sposób weryfikacji założonych efektów kształcenia (DO TŁUMACZENIA)			
Required courses and introductory requirements			
<p>A. Formal requirements</p> <p>B. Prerequisites</p>			
Aims of education			
Observables in absorption and luminescence spectroscopy, understanding basic physical principles of processes, phenomena and typical optical equipment, data collection and analysis in molecular biospectroscopy.			
Course contents			
Molecular spectroscopy in ultraviolet and visible domain; Selected phenomena, laws and processes in molecular systems with underlining biophysical context; Absorption and luminescence characteristics; Selected experimental methods upon steady-state and pulsed excitation; Characteristics of aminoacids, selected peptides and proteins; Selected data analysis methods and applications to biospecies;			
Bibliography of literature			
J. R. Lakowicz - Principles of fluorescence, ed. 3, 2006 A. Kowski – Photoluminescence of solutions, PWN 1992 A. Kowski - Set of review articles			

B. Valeur „Molecular Spectroscopy” Springer, 2002 P. Bojarski, published and unpublished materials	
	Knowledge
	Skills
	Social competence
Contact	
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