


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	
Graduate laboratory course		13.3.1298	
Name of unit administrating study			
null			
Studies			
faculty	field of study	type	second tier studies (MA)
Faculty of Chemistry	Chemistry	form	full-time
		specialty	all
		specialization	all
Teaching staff			
dr hab. Jolanta Kumirska, profesor uczelni			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		12	
Laboratory classes		Classes 180 h	
The realization of activities		Tutorial classes 50 h	
classroom instruction		Student's own work 70 h	
Number of hours		TOTAL: 300 h - 12 ECTS	
Laboratory classes: 180 hours			
The academic cycle			
2022/2023 summer semester			
Type of course		Language of instruction	
obligatory		english	
Teaching methods		Form and method of assessment and basic criteria for evaluation or examination requirements	
Practical laboratory work – computational chemistry experiments and case studies, analysis of obtained results and discussion.		Final evaluation	
		Graded credit	
		Assessment methods	
		Realization of student project and presentation of the obtained results	
		The basic criteria for evaluation	
		an assessment of the quality of performed researches, including substantive preparation, independence in their realization, correctness of conducted researches (if performed), correctness of interpretation of the obtained results	
Method of verifying required learning outcomes			
The method of verifying the acquisition of knowledge: oral presentation and argumentation during the discussion, the student solves problems in writing (reports).			
The method of verifying the acquisition of skills: the student solves problems in writing (reports) or oral (oral answer) in the related field of master thesis.			
The method of verifying the acquisition of social competences: observation of the student's behavior during classes and during consultations.			
Required courses and introductory requirements			
A. Formal requirements			
Knowledge of general, inorganic, and organic chemistry, biochemistry, and mathematics at the first-cycle education. Knowledge of basic issues in the field of quantum chemistry, chemometrics and/or related scientific fields.			
B. Prerequisites			
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Aims of education			

Substantive and / or practical preparation for the performance of the experimental part in the field of the master thesis	
Course contents	
The program content is varied and depends on the scope of the topic of the master thesis	
Bibliography of literature	
Literature required to pass the course	
A.1. Literature used during classes: Specialist literature in the scope of realized master thesis. The scope of literature is corrected and still adopted to conducted master research topics	
A.2. Literature for individual studies: Specialist literature in the scope of realized master thesis. The scope of literature is corrected and still adopted to conducted master research topics	
Extracurricular readings Specialist literature in the scope of realized master thesis. The scope of literature is corrected and still adopted to conducted master research topics	
The learning outcomes (for the field of study and specialization)	Knowledge
K_W02: has in-depth knowledge in the field of basic chemistry	Student: names and describes methods of analysis and/or methods of computer theoretical calculations used during realization of master project
K_W03: demonstrates in-depth knowledge in the field of modern measuring techniques used in chemical analysis	distinguishes and characterizes individual experimental/ IT techniques used during realization of research project
K_W05: has extended knowledge in the field of the specialisation studied	identifies scientific and research apparatuses used during realization of research project and explains the principles of their operations.
K_W10: uses knowledge of the principles of operation of the scientific and research apparatus used in chemistry	Skills
K_W12: knows the principles of occupational health and safety to the extent that allows independent work on a research and/or measurement position	Student: performs scheduled experiments, makes observations
K_U02: critically assesses the results of conducted, performed observations and theoretical calculations and discusses errors	analyzes the obtained results and compares them with available literature data
K_U10: reads with understanding scientific and popular science chemical texts in English	draws conclusions from the conducted tests and proves their correctness in based on available literature data
K_K05: understands the need for independent search of information in scientific literature and popular science magazines	presents the same content in a different language convention
	systematically collects and prepares documentation of her/his research work.
	Social competence
	Student: works independently
	correctly defines priorities necessary for realization of her/his own aims
	cares for safety during own-self realization of chemical experiments
	takes into account the made arrangements for realization of experiments.
Contact	
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