


KAPITAŁ LUDZKI
 NARODOWA STRATEGIA SPÓJNOŚCI

 Projekt współfinansowany przez
 Unię Europejską w ramach
 Europejskiego Funduszu
 Społecznego

UNIA EUROPEJSKA
 EUROPEJSKI
 FUNDUSZ SPOŁECZNY


Course title		ECTS code	
Instrumental analysis		13.3.0412	
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 hab. Grzegorz Romanowski; dr Sylwia Freza; mgr Jakub Maculewicz; mgr Agata Zwara; mgr Dawid Faron; dr Jaromir Kira; dr Anna Wcisło			
Forms of classes, the realization and number of hours		ECTS credits	
Forms of classes		7	
Auditorium classes, Laboratory classes, Lecture		classes 75 h	
The realization of activities		tutorial classes 15 h	
classroom instruction		student's own work 85 h	
Number of hours		TOTAL: 175 h - 7 ECTS	
Lecture: 30 hours, Laboratory classes: 30 hours, Auditorium classes: 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	
<ul style="list-style-type: none"> - conducting experiments - multimedia-based lecture - problem solving 		Final evaluation	
		<ul style="list-style-type: none"> - Graded credit - Examination 	
		Assessment methods	
		<ul style="list-style-type: none"> - ssignment work – conducting research and presenting results - written exam with open questions - (mid-term / end-term) test - graded course credit based on individual grades obtained during the semester 	
		The basic criteria for evaluation	
Method of verifying required learning outcomes			
Required courses and introductory requirements			
A. Formal requirements B. Prerequisites			
Aims of education			
<ul style="list-style-type: none"> • acquainting students with the principles of electroanalytical, spectroscopic and chromatographic methods as well as stages of the analytical process, • developing skills in basic instrumental analyzes and their statistical evaluation, • developing the skills of solving problems by yourself during chemical analysis 			
Course contents			
Bibliography of literature			
The learning outcomes (for the field of study and		Knowledge	

specialization)	<ol style="list-style-type: none"> 1. Defines the basic laws in electroanalytical, spectroscopic and chromatographic methods. 2. Describes the construction and operation of the apparatus used in the above methods. 3. Selects the analytical method for a specific sample. 4. Explains the principles of sample preparation for analysis. 5. Explains the principles of analysis using various instrumental techniques. 6. Recognizes the limitations of using each method.
	Skills <ol style="list-style-type: none"> 1. Uses basic formulas to calculate the amount of analyte. 2. Carries out the measurement in accordance with the exercise instructions. 3. Interprets the results in qualitative and quantitative aspects along with their statistical processing. 4. Recognizes and operates the apparatus used in the analytical laboratory.
	Social competence <ol style="list-style-type: none"> 1. Is aware of the financial conditions of the selected instrumental method. 2. Demonstrates an active attitude in the face of an analytical problem. 3. Demonstrates the ability to critically assess the analysis and results obtained. 4. Takes care of the apparatus and environment used (utilization of chemical waste water).
Contact	
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