


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 Jaromir Kira; mgr Agata Zwara; mgr Dawid Faron; mgr Jakub Maculewicz; dr Anna Wcisło; dr Sylwia Freza				
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 eveluation or examination requirements		
- conducting experiments - multimedia-based lecture - problem solving		Final evaluation		
		- Graded credit - Examination		
		Assessment methods		
		- 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				
• 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).
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