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		
Wydział Chemii	Chemia	type	drugiego stopnia
		form	stacjonarne
		specialty	wszystkie
		specialization	wszystkie

Teaching staff

dr hab. Grzegorz Romanowski; mgr Adrian Koterwa; dr Anna Wcisło

Forms of classes, the realization and number of hours

Forms of classes

Auditorium classes, Laboratory classes, Lecture

The realization of activities

classroom instruction

Number of hours

Laboratory classes: 30 hours, Lecture: 30 hours, Auditorium classes: 15 hours

ECTS credits

7
classes 75 h
tutorial classes 15 h
student's own work 85 h
TOTAL: 175 h - 7 ECTS

The academic cycle

2023/2024 winter semester

Type of course

obligatory

Language of instruction

Polish

Teaching methods

- conducting experiments
- multimedia-based lecture
- problem solving

Form and method of assessment and basic criteria for eveluation or examination requirements

Final evaluation

- Graded credit
- Examination

Assessment methods

- ssignment work – conducting research and presenting results
- (mid-term / end-term) test
- written exam with open questions
- 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 specialization)

Knowledge

	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
	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
	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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