

Level: Specialist studies				
Course title: UV/VIS and IR spectroscopy in the analysis of the environment (advanced course)				
Status: elective				
ECTS: 5				
Requirements: none				
Learning objectives Training students to apply UV/VIS and IR spectroscopy in the qualitative and quantitative analysis of environmental samples.				
Learning outcomes Obtained specialized knowledge required for modern and suitable analytical approaches to solving environmental problems by using the appropriate spectroscopic techniques.				
Syllabus <i>Theoretical instruction</i> Principles of UV/VIS spectroscopy, the basic instrumentation (equipment needed for the analysis of liquid, gaseous and solid samples). The absorption of UV radiation. The intensity of absorption. Recording of the spectrum. The choice of solvent. Selection rules. Chromophores. The basic principles of IR spectroscopy, the basic instrumentation (equipment needed for the analysis of liquid, gaseous and solid samples). The absorption of IR radiation. Frequency of vibration. The factors that determine the positions of the absorption maxima of the functional groups. The interpretation of the IR spectrum. Quantitative analysis. <i>Practical instruction</i> Practical course follows the theoretical one.				
Weekly teaching load				Other:
Lectures: 2(30)	Exercises: 2(30)	Other forms of teaching:	Student research:	