

Table 5.2 Course specification

Type and level of studies: Bachelor, the first			
Course name: Analysis of Biological Material IHA-405			
Course status: Elective			
Number of ECTS credits: 6			
Requirement: none			
Course aim Acquiring knowledge about the types of biological material. Application of previously acquired knowledge in analytical chemistry in the analysis of biological material of plant and animal origin. Developing independence in the selection and implementation of qualitative and quantitative analysis of biological material. Performing correct conclusions based on the results of the analysis.			
Course outcome After successfully completing the course, the student will be able to: understand the concept and recognize the types of biological material; list the most important substances found in biological material of plant and animal origin under normal conditions and under conditions caused by anthropogenic factors; propose and apply an adequate analytical method for the detection and determination of the selected substance in biological material; independently interpret the obtained experimental results and write reports.			
Course content <i>Theory</i> The concept and types of biological material. The composition and content of substances in different biological material found in normal conditions or in conditions caused by anthropogenic factor. Sample preparation techniques of biological material of plant and animal origin. Classical and instrumental methods of qualitative and quantitative analysis of biogenic elements and selected pollutants (pesticides, textile dyes, heavy metals) in biological material. Presentation and interpretation of results. <i>Practice: Practical classes, OFT, SRW</i> Preparation of plant and animal material for chemical analysis. Determination of biogenic substances in plant material. Qualitative and quantitative analysis of metals in plant material. Determination of pesticide content in plant material. Determination of heavy metals in biological material of animal origin. Determination of polycyclic aromatic hydrocarbons in biological material of animal origin.			
Literature 1. Lecture notes 2. L.E. Metzger, S.S.Nielsen, Food Analysis Laboratory Manual, Springer New York (2003) 3. S. Ranganna, Handbook of Analysis and Quality Control for Fruit and Vegetable Products, McGraw-Hill Offices, New Delhi, 1986.			
Number of classes of active teaching			Other classes
Lectures: 3 (45)	Practice: 2 (30)	OFT: SRW:	
Teaching methods Lecture, lab work, group and individual consultations.			
Assessment of knowledge (maximum of 100 points)			
Pre-exam obligations	Points	Final exam	points
activity during lecture classes	10	oral exam	60
practical teaching	30		