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| Study programme(s): Doctoral Academic Studies in Chemistry | | | | |
| Level: PhD studies | | | | |
| Course title: Selected Topics in Environmental Analysis | | | Subject code: | DSH-617 |
| Lecturer(s): Dr. Biljana F. Abramović, Dr Katalin Mesaroš Sečenji, dr Daniela Šojčić | | | | |
| Status: Elective | | | | |
| ECTS: 15 | | | | |
| Requirements: None | | | | |
| Learning objectives To provide broad and balanced knowledge of key chemical concepts from selected topics in environmental analysis. Students who are oriented to analytical chemistry will be provided with a detailed insight into important principles and modern methods of analysis of atmosphere, hydrosphere or soil. | | | | |
| Learning outcomes Mastering the principles and methods of modern analysis of a chosen environment material. | | | | |
| Syllabus <i>Theoretical instruction</i> Legislation in this field. Sampling and review of modern methods of analysis of a chosen material (atmosphere, hydrosphere or solid). Collecting and analyzing of data. Quality assurance in environmental analysis. <i>Practical instruction</i> Seminar preparation. Introduction to a series of electronic educational materials developed within the ERASMUS + "NETCHEM" project and discussion of their content. Searching electronic database, processing, analyzing and discussing specific topics from the selected field. | | | | |
| Literature 1. R. E. Reeve, Introduction to Environmental Analysis, John Wiley & Sons, 2002.(electronic version) 2. D. A. Skoog, F. J. Holler, S. R. Crouch, Principles of Instrumental Analysis, 7th edition, Cengage Learning, Boston, MA, 2017. 3. K. A. Rubinson, J. F. Rubinson, Contemporary Instrumental Analysis, Prentice-Hall International (UK) Limited, London, 2000. 4. Internal educational material, a series of electronic teaching materials developed within the ERASMUS + "NETCHEM" project: Determination of limit of detection (LOD) and limit of quantification (LOQ) of HPLC-DAD for metoprolol analysis (B. Abramović), Sample preparation for photocatalytic degradation of alprazolam with ZnO and measurements of its photocatalytic activity (B. Abramović), http://mdl.netchem.ac.rs/course/view.php?id=27 , GC/MS Method validation plan (I. Ivančev-Tumbas), Matrix interferences in the flame atomic absorption spectrofotometry (S. Maletić, I. Ivančev-Tumbas) и Method optimisation for analysis of anions by ion chromatography (S. Maletić i I. Ivančev-Tumbas), http://mdl.netchem.ac.rs/course/view.php?id=25 . | | | | |
| Supplementary literature: Scientific and professional literature in the selected topics of environmental analysis. | | | | |
| Weakly teaching load | | | | Other |
| Lectures: 5 | Excercises: | Other forms of teaching: | Student research: 5 | |
| Teaching methodology Plenary lectures, discussions of the content of recommended videos and electronic materials, problem sessions, seminar preparation, independent presentations carried out by students | | | | |
| Grading method (maximal number of points 100) | | | | |
| Pre-exam obligations | points | Final exam | points | |
| Seminars | 50 | Oral exam | 50 | |