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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Science and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Chemistry** |
| Study Module (if applicable) | / |
| Course title | Chemodynamics of pollutants |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 3rd |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Tatjana Andjelkovic |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| To provide knowledge of the most important types of pollutants in the environment, their antropogeníc and natural sources, classification and nomenclature, their movement and degradation products between different phases, mechanisms of transformation and propagation in the atmosphere, lithosphere, hydrosphere and biosphere, their impact and consequences of effects on plants , animals and humans. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| 1. Physical-chemical characteristics of pollutants (vapor pressure, dissolution in water, octanol-water partition constant)
2. Basics of Ecotoxicological chemistry
3. Distribution of pollutants between air/water/soil - sorption on the inorganic matter
4. Distribution of pollutants between air/water/soil - sorption on the organic matter
5. Distribution of pollutants - sorption on the living media, bioavailability
6. Pollutants transport (migration of persistent organic pollutants and heavy metals)
7. Transformation processes (reversible and irreversible). Persistency in the environment.
8. Pollution, protection and remediation of soil
9. Pollution, protection and remediation of air
10. The most common water pollutants. Water treatments.
11. Chemodynamics of polychlorinated biphenyls and dioxins
12. Chemodynamics of pesticides
13. Chemodynamics of polycyclic aromatic hydrocarbons
14. Chemodynamics of arsenic, lead and mercury
15. Pollutants speciation. Speciation based on oxidative state, bond types and substrates.
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| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[ ] Serbian with English mentoring [ ] Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** | **4** | **Written examination** | **/** |
| **Practical teaching** | **18** | **Oral examination** | **30** |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **Homework assesment** | **8** |  |  |
| **\*Final examination mark is formed in accordance with the Institutional documents** |