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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Science and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Applied Chemistry** |
| Study Module (if applicable) | Module 1: Applied Chemistry Module 2: Environmental Chemistry |
| Course title | Chemistry of water and soil |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 1st |
| 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 chemical composition and processes in solid, liquid and gas phase of soil and natural waters, chemical, physical-chemical and biological processes in soil and water, as well as methods of their investigation. Development of skills for solving theoretical and experimental problems in pollutants distribution. Application of software in geochemical modeling.  |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Chemical composition of soil. Soil as polydispersive system. Soil colloids. Role of colloids in the formation of soil structure. Buffering capacity of soil. Acidity and alkalinity of soil. Aqueous phase of soil. Gas phase of soil. Composition and properties of water as solvent. Chemical composition of natural waters. Influence on water composition. Air-water interaction (open and close systems; Henry’s law, volatility).Precipitation and dissolution. Dissolution of oxides/hydroxides. Interaction between solid particles: colloids, coagulation and filtration. Classification of natural waters and water quality parameters.Water Pollution control and pollution protection. |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  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 assessment** | **8** |  |  |
| **\*Final examination mark is formed in accordance with the Institutional documents** |