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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | |  | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Applied chemistry** | | |
| Study Module (if applicable) | | | | Environmental chemistry | | |
| Course title | | | | Water and wastewater treatment technologies | | |
| Level of study | | | | Bachelor  Master’s  Doctoral | | |
| Type of course | | | | Obligatory  Elective | | |
| Semester | | | | Autumn Spring | | |
| Year of study | | | | Second | | |
| Number of ECTS allocated | | | | 4 | | |
| Name of lecturer/lecturers | | | | Jelena Mitrovic | | |
| Teaching mode | | | | Lectures Group tutorials  Individual tutorials  Laboratory work  Project work  Seminar  Distance learning  Blended learning  Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Acquiring knowledge about the properties of water as solvent, characteristics of natural and waste water and the basics of mechanical, physical and chemical technologies for obtaining drinking water and the treatment of natural and waste water.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **The composition, structure and properties of water. Water as a solvent: the solubility of the substances, solutions and types of solution. Physical, chemical and microbiological properties of natural water. Physical, chemical and microbiological properties of wastewater. The technology of drinking water; coagulation/flocculation and filtration. Removal of mineral substances from the water: water hardness, thermal and chemical water softening methods. Iron and manganese removal water treatment. Removal of natural organic matter from water; Removing dissolved gases from the water; deodorization of water. Basics of water disinfection. The technology of wastewater; Mechanical wastewater treatment. Chemical wastewater treatment. Fundamentals of biological wastewater treatments. Final cleaning and disinfection of wastewater. Sludge treatment process, reuse and disposal.** | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| 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** | **5** | | **Written examination** | | | **30** |
| **Practical teaching** | **20** | | **Oral examination** | | | **15** |
| **Teaching colloquia** | **30** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |