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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Applied chemistry** |
| Study Module (if applicable) | Environmental chemistry |
| Course title | Biodegradation |
| Level of study | ☐Bachelor X Master’s ☐ Doctoral |
| Type of course | ☐ Obligatory X Elective |
| Semester  |  X Autumn ☐Spring |
| Year of study  | second |
| Number of ECTS allocated | 5 |
| Name of lecturer/lecturers | Aleksandra S. Đorđević |
| Teaching mode |  X Lectures ☐Group tutorials ☐ Individual tutorials X Laboratory work ☐ Project work X Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *This course trains students to understand degradation processes in environmental protection and biotechnology. Students acquire necessary knowledge about microorganisms and their importance in protecting the environment from anthropogenic pollution.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Lectures:****Definitions of biodegradation and bioremediation. Types of biodegradation processes. Metabolic basics of biodegradation and biotransformation. Types of enzymes that catalyze biological transformations substantial for nature and human beings. The microbiological processes, biological filtration, microbial interactions with pollutants, microorganisms as bioindicators and active actors in the field of environmental protection. Types of fermentation. Control of biodegradation processes and their usage in biotechnology, pharmaceutical, medical, agricultural production and protection. Possible usage of biological agents in wastewater treatment. Bioremediation examples based on biodegradation and biotransformation processes.** |
| **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** | **0-5** | **Written examination** | **0-70** |
| **Practical teaching** | **0-5** | **Oral examination** |  |
| **Teaching colloquia** | **0-20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |