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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and MathematicsDepartment of Biology and Ecology |
| **GENERAL INFORMATION** |
| Study program  | Biology |
| Study Module (if applicable) | / |
| Course title | Microbiological practicum |  |  |
| Level of study | [ ] Bachelor [x]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | first |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Nataša Joković |
| 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)** |
| - introducing students to the principles and procedures of work in microbiological laboratory,- Introduction to the microbiological, chemical and molecular methods used in the study of microorganisms,- mastering of microbiological methods used in microbiological laboratories. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Theoretical classesSterilization and types of sterilization. Methods of studying the morphology and ultrastructure of microorganisms. The growth of the micro-organism in the laboratory. Isolation of microorganisms from different environments. The cultivation and storage of microorganisms. Identification of micro-organisms. Distribution, number and activity of microorganisms in different ecosystems. Microbiological safety of food and pharmaceutical products. Molecular methods for ecosystem examination. Experimental methods for studying the metabolism of microorganisms. Experimental methods in genetics of microorganisms. The sequencing of the genome of the microorganism. Methods of studying bacteriophages.Practical classes: Exercises, Other modes of teaching, Study research Introduction to the work in microbiological laboratory. Preparation of culture media for microorganism’s growth. Sterilization of culture media and laboratory equipment. Getting acquainted with rules of sampling, handling the samples and seeding substrates. The counting of micro-organisms in different environments. Isolation of microorganisms from different environments. Obtaining a pure culture of microorganisms. Identification of micro-organisms. The measurement of microorganisms. Determining the microbiological safety of products. |
| **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 theoretical lectures** | **5** | **Written examination** | **20** |
| **Activity during practical classes** | **5** | **Oral examination** | **50** |
| **Colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |