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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Sciences and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | **Biology and Ecology** |
| Study Module (if applicable) |  |
| Course title | BIOCHEMISTRY AND PHYSIOLOGY OF MICROORGANISMS  |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | second |
| Number of ECTS allocated | 12 |
| Name of lecturer/lecturers | Dr Zorica Stojanović-Radić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [x]  Individual tutorials [ ] Laboratory work [x]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The course aims to introduce students with chemical processes involved in microbial metabolism, to provide a wider knowledge about biochemical reactions in microbial cells and better understanding of microbial physiology. Outcomes of the course are knowledge about diversity of biochemical reactions involved in microbial metabolism, proficiency in methods for investigation of microbial biochemical reactions and ability to apply knowledge related to microbial metabolism for its detailed investigation. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Structural organisation of microbial cell. General characteristics of microbial cell's metabolism. Bioenegetics in membrane and in the cytosol. Nutritive types of microorganisms. Metabolic diversity among microorganisms. Specificities of microbial metabolism – photosynthesis and inorganic metabolism (chemolithotrophy). Metabolism of extremophiles. Mentaining of homeostasis. Products of microbial secondary metabolism. Application of microbial metabolic processess.  |
| **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** | **10** | **Written examination** | **30** |
| **Practical teaching** |  | **Oral examination** | **30** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |