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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | Faculty of Sciences and Mathematics  Department of Biology and Ecology | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | Biology | | |
| Study Module (if applicable) | | | | / | | |
| Course title | | | | Biotechnology | | |
| Level of study | | | | Bachelor  Master’s  Doctoral | | |
| Type of course | | | | Obligatory  Elective | | |
| Semester | | | | Autumn Spring | | |
| Year of study | | | | first | | |
| Number of ECTS allocated | | | | 6 | | |
| Name of lecturer/lecturers | | | | Nataša Joković | | |
| Teaching mode | | | | Lectures Group tutorials  Individual tutorials  Laboratory work  Project work  Seminar  Distance learning  Blended learning  Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| - acquisition of basic knowledge on industrial microbiological processes,  - getting acquainted with application of molecular methods in biotechnology,  - introduction to basic methods of laboratory work with industrial microorganisms | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| Theoretical classes  The basic concept of biotechnology. Industrial microbiological processes. Alcoholic and methane fermentation. Culture of plant cells. Culture of animal cells. Recombinant DNA technology. Genetically modified microorganisms. Genetically modified plants. Genetically modified animals. Stem cells. Cloning animals. Human genetic diseases. Gene therapy. Gene therapy in the treatment of cancer. Nanotechnology. Biotechnology in environmental protection. Biotechnology in energetics. Biotechnology in plant production. Modern trends of development of biotechnology.  Practical classes: Exercises, Other modes of teaching, Study research  Standard rights. Mutations with UV light. Mutations with nitrous acid. Lactic acid fermentation. Production of yeast biomass. Alcoholic fermentation. Synthesis of dextran. Seminar papers on the theme of modern trends in biotechnology | | | | | | |
| **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 theoretical lectures** | **10** | | **Written examination** | | |  |
| **Activity during practical classes** | **10** | | **Oral examination** | | | **50** |
| **Seminar** | **30** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |