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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) | PhD studies |
| Course title | Molecular Cell Biology (BDI101) |
| Level of study | ☐Bachelor ☐ Master’s ☒ Doctoral |
| Type of course | ☐ Obligatory ☒ Elective |
| Semester  |  ☐ Autumn ☒Spring |
| Year of study  | second |
| Number of ECTS allocated | 12 |
| Name of lecturer/lecturers | Perica Vasiljević |
| Teaching mode |  ☒Lectures ☐Group tutorials ☐ Individual tutorials ☐ Laboratory work ☐ Project work ☐ Seminar ☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Expending the knowledge of molecular cell biology. Application of acquired knowledge in the literature analysis as well as in research. Upon completion of the course the student shoul be able to: understand and explain the principles and concepts behind modern research in cell biology; apply the acquired knowledge in presentation of experimental data and in problem solving during the research; Independetly write an essay, seminar, project proposal or research paper. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Principles of molecular mechanisms in cell functioning in the context of biotechnology and medicine applications. The origin and evolution of cells. Transition of the original systems to the cell organization. Biomolecules as building blocks. Molecular chaperones. Structural and functional organization of the cell nucleus. Protein sorting. Nuclear receptors as pharmacological targets. Cell cycle and cell cycle regulation. The mechanisms for the induction of the main morphological and biochemical characteristics of the cellular proliferation, differentiation and programmed cell death. |
| **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** |  | **Written examination** |  |
| **Seminar** | **40** | **Oral examination** | **60** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |