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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | Electrical Engineering and Computing |
| Study Module (if applicable) | Computing and Informatics  |
| Course title | Bioinformatics |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [ ] Spring |
| Year of study  | 2 |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Tošić B. Milorad |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [x]  Project work [ ]  Seminar [x] Distance learning [x]  Blended learning [x]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Students will understand the role of information technologies in the usage of bioinformatics andopportunities for professional and scientific-research career in this field.Ability to understand problems in the field of bioinformatics, professional and scientific literature retrivalfrom this area, knowledge of existing publicly available data sources, and adopting the vocabulary andterminology in this field. Students are able to develop software tools for access to publicly availabledatabases and to manipulate data that way obtained. The development of new algorithms andsoftware solutions in bioinformatics. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Selected topics of bioinformatics and proteomics. Fundamentals: Genetics, Proteomics, Chemistry,Biology. Selected algorithms used in bioinformatics applications, current real-world examples, actualimplementations, and engineering design issues. Developing software in bioinformatics: overview ofexisting bioinformatics resources available in public, developing software for existing databanks,software architectures for archiving data, algorithms for search and information extraction. The use ofdata warehouses, databases, and ontologies in the bioinformatics community. |
| **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** |  | **Written examination** |  |
| **Practical teaching** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |