|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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  Doctoral | | |
| Type of course | | | | Obligatory  Elective | | |
| Semester | | | | Autumn Spring | | |
| Year of study | | | | 2 | | |
| Number of ECTS allocated | | | | 10 | | |
| Name of lecturer/lecturers | | | | Tošić B. Milorad | | |
| Teaching mode | | | | Lectures Group tutorials  Individual tutorials  Laboratory work  Project work  Seminar  Distance learning  Blended learning  Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| Students will understand the role of information technologies in the usage of bioinformatics and  opportunities for professional and scientific-research career in this field.  Ability to understand problems in the field of bioinformatics, professional and scientific literature retrival  from this area, knowledge of existing publicly available data sources, and adopting the vocabulary and  terminology in this field. Students are able to develop software tools for access to publicly available  databases and to manipulate data that way obtained. The development of new algorithms and  software 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, actual  implementations, and engineering design issues. Developing software in bioinformatics: overview of  existing bioinformatics resources available in public, developing software for existing databanks,  software architectures for archiving data, algorithms for search and information extraction. The use of  data warehouses, databases, and ontologies in the bioinformatics community. | | | | | | |
| **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** | | |  |
| **Practical teaching** | **50** | | **Oral examination** | | | **50** |
| **Teaching colloquia** |  | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |