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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Computing and Informatics** |
| Study Module (if applicable) | Information systems |
| Course title | Systems for large-scale data processing |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Dragan H. Stojanović |
| Teaching mode |  [x] Lectures [x] Group tutorials [ ]  Individual tutorials [x] Laboratory work [x]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Acquiring knowledge, methods and technologies for design and implementation of systems for large-scale data processing and analysis. Theoretical and practical knowledge about principles, methods, technologies, software tools, components and platforms for design and implementation of systems for large-scale data processing and analysis.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Fundamental principles of processing, search and analysis of large-scale data (Big Data). Mobile, parallel and distributed databases and distributed query and transaction processing. NoSQL databases. Data stream and complex event management and processing systems. Cloud computing and large-scale data processing in cloud. Map/Reduce programming framework, Hadoop and related technologies for distributed processing of large-scale data. Data management in sensor networks. Analysis, design and implementation of systems for large-scale data processing. Applications based on systems for large-scale data processing.****Practical work on design and implementation of components and system for large-scale data search, processing and analysis and evaluation of such system on real massive dataset and actual application domains over the set of lab exercise and practical project.** |
| **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** | **10** | **Written examination** | **40** |
| **Practical teaching** | **10** | **Oral examination** |  |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |