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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 Technologies |
| Course title | Natural Language Processing |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | I |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Suzana Stojkovic |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [x]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The goal of this course is to introduce students to the basic concepts and ideas of the Natural Language Processing (NLP) and with applications of these concepts in information extraction, information retrieval systems, sentiment analysis, question answering, automatic translation ... After completing this course the student acquires theoretical and practical knowledge necessary for development of applications based on natural language processing. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Natural language morphology. Extracting words using regular expressions and finite automata. Word recognition using statistical models of natural languages (N-gram model, for example). Determining the kind of the words. Type error correction. The syntax of natural languages. Formal grammars for the description of natural languages. Algorithms for syntax analysis controlled by grammar. Algorithms for syntax analysis controlled by data. Statistical parsers. Semantics and pragmatics of natural languages. Applications based on natural language processing. Information extraction. Sentiment analysis. Question answering systems. Machine translation. |
| **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** | **10** | **Written examination** |  |
| **Practical teaching** | **20** | **Oral examination** | **30** |
| **Projects** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |