|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  |  Faculty of Mathematics and Science |
| **GENERAL INFORMATION** |
| Study program  |  Computer Science |
| Study Module (if applicable) |  |
| Course title |  Fuzzy systems |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 2. |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Ivana Micić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [ ] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Introduction to basic ideas, concepts and results of the theory of fuzzy sets, with the basis of fuzzy logic, the basic types of fuzzy systems and practical applications of fuzzy sets and fuzzy logic.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Classical and fuzzy sets, structures of truth-values, operations on fuzzy sets, classical and fuzzy relations, composition of fuzzy relations, fuzzy relational equation, fuzzy equivalence, the fuzzy planning, the principle of extension, fuzzy matrix and fuzzy vectors, linguistic variables, fuzzy IF-THEN rules , classical and fuzzy logic, approximate reasoning, inference rules in fuzzy logic. Fuzzy systems: the concept of the fuzzy system, fuzzy controllers, fuzzy rules, fuzzy reasoning, fuzzy reasoning based on composition, fuzzification and defuzzification, the basic types of fuzzy systems, fuzzy neural networks, fuzzy automata, fuzzy dynamic systems. Some applications of fuzzy sets and fuzzy logic.** |
| **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** | **5** | **Written examination** | **30** |
| **Practical teaching** | **5** | **Oral examination** | **40** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |