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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Sciences and Mathematics |
| **GENERAL INFORMATION** |
| Study program  | Computer Science |
| Study Module (if applicable) | Information Management, Software Development |
| Course title | Mathematical Logic |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | first |
| Number of ECTS allocated | 7 |
| Name of lecturer/lecturers | Aleksandar Stamenković |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [ ]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| An introduction to basic concepts of formal logic: the propositional and predicate calculus and applications of formal logic in automated theorem proving and logic programming. An Introduction to non-classical logic. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Propositional logic: propositional formula, interpretation, logical equivalence, satisfiability, tautologies and contradictions, semantics consequences, semantic tableaux, syntactic consequences, completeness of propositional logic, resolution, SAT solvers and DPLL algorithm.Predicate logic: predicates, quantifiers, bound and free variables, the language of predicate logic, predicate formulas, interpretation, model, satisfactory, rolled formulas, predicate calculus, completeness of predicate logic, resolution….An Introduction to non-classical logic: Modal Logic, Intuitionist Logic and Many-Valued 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** | **10** | **Written examination** | **40** |
| **Practical teaching** | **50** | **Oral examination** | **-** |
| **Teaching colloquia** | **-** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |