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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | Electrical Engineering and Computing |
| Study Module (if applicable) | Computing and Informatics |
| Course title | Algorithms of Logic Games |
| Level of study | X Bachelor ☐ Master’s ☐ Doctoral |
| Type of course |  Obligatory X Elective |
| Semester  | ☐ Autumn XSpring |
| Year of study  | IV |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Prof. dr Vučković V. Vladan |
| Teaching mode | X Lectures ☐Group tutorials ☐ Individual tutorials☐Laboratory work ☐ Project work ☐ Seminar☐Distance learning ☐ Blended learning ☐ Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Learning basics of logic games also with algorithms and techniques for their application and the implementation of various logic games |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| The mathematical basis of logic games. Mathematical models of logical games - examples. General classes of logical games. Typical logic games. Algorithmic fundamentals of logic games. The notion of complexity and combinatorial explosion. Methods for overcoming the problem of complexity. Heuristic methods of decision tree cutting (forward pruning). Limiting the expansion tree. The basic algorithms for processing the logical tree games. Alfa-Beta, PVS, Null-move, NegaScout, MTD (f), and MultiProbe Cut, quiescence, and MVV-LVA SEE procedures. Ancillary procedures and heuristics (Minimal Window Search, ETC, History, Futility, Contempt factor). Alternative algorithms logic games - Berliner's algorithm. Parallel algorithms of logical games. Application of transposition bases in logic games. Evaluation function. Parallel and distributed algorithms logic games. Client-server architecture as the basis of implementation of logical games on the internet. Examples and analysis of large systems installed for remote playing logical games (facebook games, playchess server). |
| **LANGUAGE OF INSTRUCTION** |
| xSerbian (complete course) ☐ English (complete course) ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)xSerbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **ASSESSMENT METHODS AND CRITERIA** |
| **Pre exam duties** | **Points** | **Final exam** | **points** |
| **Activity during lectures** |  | **Written examination** | **10** |
| **Practical teaching** | **20** | **Oral examination** | **40** |
| **Teaching colloquia** | **30** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |