|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | **Faculty of Electronic Engineering** |
| **GENERAL INFORMATION** |
| Study program  | Control Systems |
| Study Module (if applicable) | Automatic Control |
| Course title | Intelligent Systems |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Đorđević S. Goran |
| 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)** |
| To provide students with skills in advanced artificial intelligence techniques. To show students the current problems and possible solutions for the implementation of intelligent systems, the importance of computer vision, communication, and planning for the implementation of intelligent systems. Students are to be presented with decision making with unreliable data. To demonstrate to students possible applications of intelligent systems for business applications, as well as application of ontology in solving the problem of semantic information integration. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Theoretical study of systems with artificial intelligence. Tjuringov test. Concluding with unreliable data: non-monolithic reasoning, statistical methods. Bayes' network: syntax and semantics, accurate and approximate reasoning. Computer Vision. Communicating: natural language processing. Speech recognition. Understanding of natural language. Planning algorithms. Probabilistic reasoning. Distributed intelligence and distributed reasoning systems. Application of intelligent systems in business. Business intelligence, multi-database and OLAP. Representation of semantics and commonsense knowledge. Ontologies. Examples of systems based on ontologies (intelligent integration of information, Semantic Web). Practical lessons include implementation of the system with unreliable conclusions. Algorithms and methods for computer vision. Algorithms and methods for natural language processing. Machine learning algorithms and natural language understanding. Ontologies and semantic representations. Standards for ontologies. The application of intelligent systems and examples. |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  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** | **0** |
| **Practical teaching** | **50** | **Oral examination** | **40** |
| **Teaching colloquia** | **0** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |