|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Computing and Informatics** |
| Study Module (if applicable) | Software Engineering |
| Course title | Intelligent Transportation Systems |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Dejan D. Rančić, Dragan H. Stojanović |
| Teaching mode |  [x] Lectures [x] Group tutorials [ ]  Individual tutorials [x] Laboratory work [x]  Project work [x]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| *Introducing the concept of intelligent transportation systems, and the basic elements of these systems, their classification, and functional characteristics of the components. Theoretical and practical knowledge of the technological aspects of intelligent transportation systems and architectures of some categories of these systems. Knowledge of ICT technologies involved in the design and implementation of intelligent transportation systems, as well as knowledge of the functional and non-functional characteristics of individual categories of ITS.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **The definition and classification of intelligent transportation systems. The functionality of the core components of ITS. Geographic Information Systems in ITS (road network analysis, analysis of dynamic and static traffic characteristics, GIS in transport planning and control systems). Vehicle location systems (Automatic Vehicle Location - AVL) and advanced passenger and traffic information systems. Support systems, logistics and management of commercial fleet vehicles. The collection, processing and analysis of data on the dynamic characteristics of the traffic and road infrastructure. Software tools and platforms, and hardware devices used in the implementation of ITS (GPS, sensors in the road infrastructure, vehicle and mobile devices, network models in spatial databases ...). Analysis of the design and implementation of intelligent transportation systems. Design and implementation of intelligent transportation system components and applications through a set of laboratory exercises and projects that follow the topics covered in lectures.** |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [ ]  English (complete course) [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course)[x] 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** | **10** | **Oral examination** |  |
| **Teaching colloquia** | **40** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |