|  |
| --- |
|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | **Faculty of Electronic Engineering** |
| **GENERAL INFORMATION** |
| Study program  | Electrical Engineering and Computing |
| Study Module (if applicable) | Control Systems |
| Course title | Robotics and Automation |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 10 |
| 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)** |
| Understanding the distinction, justification and needs for automated production. Introduction to the basic components of automation. Robot as a universal machine. The building principles of automation system. Automation components and systems and their functional connections. Design and installation of automated manufacturing systems. Programmable Logic Controllers. The application of robots in automation of production. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Production system. Basic manufacturing strategy. Productivity and flexibility in production. Unregulated environment as a motive for robotics. Robots in manufacturing and non-manufacturing environments. The basic robot construction. Robot sensors. Final robot devices. Motion control and robot programming. Vision systems. Transport systems. Programmable Logic Controllers. Industrial interface. Flexible manufacturing cell design. |
| **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** | **0** | **Written examination** | **0** |
| **Practical teaching** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** | **0** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |