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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  |  Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | Control Systems |
| Study Module (if applicable) | Automatic Control, Computer Control Systems and Measurement Techniques |
| Course title | Systems for Industrial Process Supervision and Control |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [ ]  Autumn [x] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 4 |
| Name of lecturer/lecturers | Jevtić S. Milun |
| 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)** |
| Acquiring knowledge about the most commonly used systems for supervision and control of industrial processes. Learning the functionality of all elements in the system for industrial process supervision and control. Learning how to connect the parts into the system and how to connect system with the environment. Gain knowledge about the possibilities of programming systems - elements of the system. The ways of interaction between human and the system for supervision and control of industrial processes. Consider the possibility of integration the system for supervision and control of industrial processes into the extensive information system. Acquire basic knowledge about the limitations of the system for supervision and control of industrial processes's applications. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Types and architectures of industrial control-monitoring system. Controllers: relay, electronic, computer and microprocessor devices. Industrial programmable controllers (PLCs, PACs): architectures, logic elements and standard features. The development environment for PLC and PAC. HMI realization. Industrial PC. Automation and visualization. Microcomputer systems for real-time control. Highly responsible systems. Industrial communication networks: topology, transmission media, removable media access methods. Network standards. Communications protocols: Ethernet, TCP / IP, Profibus. Standards of communication channels physical layer. Optical transmission systems. OPC standards and specifications. |
| **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** | **5** | **Written examination** | **20** |
| **Practical teaching** | **35** | **Oral examination** | **20** |
| **Teaching colloquia** | **20** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |