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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | **Electronic Engineering** |
| **GENERAL INFORMATION** |
| Study program  | Electronics and Microsystems |
| Study Module (if applicable) | Electronic Devices and Microsystems |
| Course title | Microelectromechanical systems (MEMS) |
| Level of study | [ ] Bachelor [x]  Master’s [ ]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  | [x]  Autumn [ ] Spring |
| Year of study  | 1 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Pešić M. Biljana /Paunović V. Vesna |
| Teaching mode |  [x] Lectures [x] Group tutorials [x]  Individual tutorials [x] Laboratory work [x]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Introducing the students in the structure, operating principle and application of various microelectromechanical systems (MEMS). Necessary knowledge on the operating principles, realization and application of MEM devices. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Basic elements of MEM systems: sensors, actuators, passive structures and electronic circuits. Techniques for sensing and actuation. Operation and application of following MEM devices: acceleration sensors and gyroscopes, pressure sensors and fluid flow sensors, gas sensors and biochemical sensors, microelectrodes, microphones, micromotors, microelectromechanical valves and micropumps, microelectromechanical resonators, optical and RF switches, digital micromirrors and optical displays, thermomechanical memories, integrated MEM devices. |
| **LANGUAGE OF INSTRUCTION** |
| [x] Serbian (complete course) [x]  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** | **5** | **Written examination** | **20** |
| **Practical teaching** | **20** | **Oral examination** | **20** |
| **Teaching colloquia** | **35** | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |