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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | **Electronic Engineering** |
| **GENERAL INFORMATION** |
| Study program  | Electrical Engineering and Computing |
| Study Module (if applicable) | Nanotechnologies and Microsystems |
| Course title | Microelectronics |
| Level of study | [ ] Bachelor [ ]  Master’s [x]  Doctoral |
| Type of course | [x]  Obligatory [ ]  Elective |
| Semester  |  [x]  Autumn [x] Spring |
| Year of study  | I |
| Number of ECTS allocated | 10 |
| Name of lecturer/lecturers | Zoran Prijić |
| Teaching mode |  [x] Lectures [ ] Group tutorials [ ]  Individual tutorials [x] Laboratory work [x]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [x]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| Developing skills for the analysis and design of microelectronic devices, circuits and systems. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| General principles of analog design, power in integrated circuits and active loads. Circuits with operational amplifiers (CMOS, bipolar, BiCMOS, JFET). Differential and multistage amplifiers, feedback and stability, nonideal effects. High order active filters, oscillators and function generators, A/D converters. Digital circuits in MOS technology, sequential logic circuits. MOS memory, SRAM, DRAM, Flash. Digital circuit in bipolar technology. ECL and TTL circuits, ALS logic gates. Digital circuits in BiCMOS technology. |
| **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** |  | **Written examination** |  |
| **Practical teaching** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |