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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) | Electronics |
| Course title | Electronic Circuits and Systems Design |
| 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 | Petković M. Predrag |
| Teaching mode |  [ ] Lectures [x] Group tutorials [x]  Individual tutorials [ ] Laboratory work [x]  Project work [ ]  Seminar [ ] Distance learning [ ]  Blended learning [ ]  Other |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** |
| The aim is to provide students with systematized knowledge about: methods and styles for circuit and systems design. Adopting advanced knowledge of EDA tools for submicron CMOS technologies. Students will be competent to select optimal design style according to the specific design goals. They will have a detailed insight into EDA algorithms. After finishing the course students will have at least one completed design (from functional description to tape out) based on Cadence and Synopsis design tools. |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| Design styles. Project description domains. Design steps. Design automation. Design data formats. Semicustom design. Structural design. Automatic synthesis. Physical design. Advanced CMOS processes. Floor planning. Layout design. Placement. Routing. Transistor structures. Parasitic effects. Sources of noise and interferences. Tactics again noise from systems to layout. Packages. Design verification. Tape-out. Students have to do at least one complete design (from functional description to tape-out) using Cadence and Synopsis design tools. |
| **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** |  | **Written examination** |  |
| **Practical teaching** | **50** | **Oral examination** | **50** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |