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|  **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty**  | Faculty of Electronic Engineering |
| **GENERAL INFORMATION** |
| Study program  | **Electrical Engineering and Computing** |
| Study Module (if applicable) | Computing and Informatics |
| Course title | Computer Hardware Design |
| Level of study | [x] Bachelor [ ]  Master’s [ ]  Doctoral |
| Type of course | [ ]  Obligatory [x]  Elective |
| Semester  |  [x]  Autumn [ ] Spring |
| Year of study  | 4 |
| Number of ECTS allocated | 6 |
| Name of lecturer/lecturers | Milentijević Z. Ivan, Ćirić M. Vladimir, Simić S. Vladimir |
| 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)** |
| *The main objective is design of computer hardware by using hardware design tools. Student should be able to design and implement computer subsystems.* |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** |
| **Design flow. Simulation and synthesis environments. Arithmetic circuits. Designing arithmetic circuits. VHDL descriptions of basic digital circuits in VHDL. Design compromises. VHDL description and synthesis. Dataflow supercomputing technology. Dataflow Model of Computation. Java environment for streaming processor design. Design of process units. Design of control modules. Memory system design. Designing the system bus. Design of an input-output subsystem. Power management. Design of special-purpose processors.** |
| **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** | **10** | **Written examination** |  |
| **Practical teaching** | **50** | **Oral examination** | **40** |
| **Teaching colloquia** |  | **OVERALL SUM** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |