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| FACULTY: | **Faculty of Electronics and Computer Science** |
| FIELD OF STUDY: | **Electronics and Telecommunications** |
| ERASMUS COORDINATOR OF THE FACULTY: | Marcin Walczak, PhD |
| E-MAIL ADDRESS OF THE COORDINATOR: | marcin.walczak@tu.koszalin.pl |
| COURSE TITLE: | **Programmable Digital Systems** |
| LECTURER’S NAME: | Dariusz Gretkowski, PhD |
| E-MAIL ADDRESS OF THE LECTURER: | dariusz.gretkowski@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 3 |
| COURSE CODE (USOS): | 0711>0400-RSC |
| ACADEMIC YEAR: | 2025/2026 |
| SEMESTER: (W – winter, S – summer) | S |
| HOURS IN SEMESTER: | 30 |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lecture – 30h |
| LANGUAGE OF INSTRUCTION: | * **English full time scheme for classes with 5 and more International Erasmus+ students enrolled/accepted;** * **English 50% individually with the teacher + Polish 50% with Polish students or individual project work- scheme for classes with less than 5 International Erasmus+ students enrolled/ accepted;** |
| ASSESSMENT METHOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Class test |
| COURSE CONTENT: | Review of reprogrammable circuits structures: PLA, PAL, PLD, CPLD and FPGA and methods of their programming. Review of digital hardware description languages and development environments using digital hardware description languages. VHDL language. Basic language elements: design unit, architecture, component and package. Basic language objects: constant, type, variable, signal. Layout descriptions: structured, functional, data-flow and mixed. Arithmetic and logical operators and expressions. Concurrent statements. Loop statements. Combinational systems. Designing and testing with VHDL. Functional and post-implementation simulation. Sequential instructions: process, selective and conditional assignment instructions. Loop statements. Sequential systems. Functional and post-implementation simulation. Digital systems. Designing and testing with VHDL. Functional and post-implementation simulation. |
| ADDITIONAL INFORMATION: |  |

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