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| FACULTY: | **Faculty of Mechanical and Energy Engineering** |
| FIELD OF STUDY: | **Mechatronics** |
| ERASMUS COORDINATOR OF THE FACULTY: | Igor Maciejewski, DSc, PhD |
| E-MAIL ADDRESS OF THE COORDINATOR: | igor.maciejewski@tu.koszalin.pl |
| COURSE TITLE: | **Embedded computer system architecture and programming** |
| LECTURER’S NAME: | Andrzej Błażejewski, Eng. PhD |
| E-MAIL ADDRESS OF THE LECTURER: | andrzej.blazejewski@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 2 |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | W |
| HOURS IN SEMESTER: | 15+15=30 |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lectures (15h), Classes (15h) |
| 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 METOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | written exam/project work |
| COURSE CONTENT: | The subject is a practical and technical guide tounderstanding the components that make up an embedded system’s architecture. Raspberry Pi platform withdedicated sensors and actuators supports the course.  It is perfect for those starting out as technical professional such as engineers, programmers and designers of dedicated embedded systems and also for students of computer science, computer engineering and electrical engineering. It gives an understanding the design of real-world basic, simple control and adjust (regulation) systems and provides of the key elements that can go into an embedded design.  The course increases the following skills:  -optimize the system to reduce cost and increase performance;  -develop an architecture that makes your software robust in resource-constrained environments;  -explore sensors, motors, and other I/O devices  -do more with less: reduce RAM consumption, code space etc.;  -learn how to update embedded code directly in the processor.  Fully updated with new coverage of Raspberry Pi, testing, middleware and the latest programming techniques in C and Python, plus complete source code and sample code, reference designs and tools online make a subject the complete package. |
| ADDITIONAL INFORMATION: | Code 0911>1000-AiO |