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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: | **Bio-mechatronics** |
| LECTURER’S NAME: | Tomasz Krzyżyński, Prof. |
| E-MAIL ADDRESS OF THE LECTURER: | tomasz.krzyzynski@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 2 |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | W |
| 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?) | Projects (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 METOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Project work |
| COURSE CONTENT: | In this course we seek to advance the science of biomechanics and biological movement control. Next we try to apply that knowledge to the projects for design of human rehabilitation and augmentation technology. We build models by using Matlab SimMechanics. It promises to accelerate the merging of body and machine, including device architectures that resemble the body's own musculoskeletal design, actuator technologies that behave like muscle, and control methodologies that exploit principles of biological movement. |
| ADDITIONAL INFORMATION: | Code 0911>1400-BioMech |