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| FACULTY: | **Department of Mechanical Engineering**  Department of Biomedical Engineering |
| FIELD OF STUDY: | **Biomedical Engineering** |
| ERASMUS COORDINATOR OF THE FACULTY: | Igor Maciejewski, DSc, PhD |
| E-MAIL ADDRESS OF THE COORDINATOR: | [igor.maciejewski@tu.koszalin.pl](mailto:igor.maciejewski@tu.koszalin.pl) |
| COURSE TITLE: | **Biophysics** |
| LECTURER’S NAME: | Łukasz Szparaga, PhD |
| E-MAIL ADDRESS OF THE LECTURER: | [lukasz.szparaga@tu.koszalin.pl](mailto:lukasz.szparaga@tu.koszalin.pl) |
| ECTS POINTS FOR THE COURSE:  COURSE CODE (USOS): | 4 0911>1000-Biof |
| ACADEMIC YEAR: | 2022/2023 |
| SEMESTER:  (W – winter, S – summer) | Winter |
| HOURS IN SEMESTER: | 45 |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lectures (30h)+Classes (15h) |
| LANGUAGE OF INSTRUCTION: | English |
| ASSESSMENT METOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Written exam |
| COURSE CONTENT: | To familiarize students with the selected topics in Biophysics. In particular contents related to:   * Thermodynamic description of biological organisms * Kinetics of biochemical reactions. * Biomechanics of fluids. * Influence of electric fields on biological organisms. * Ionizing radiation - impact on living organisms. * Stochastic processes. Brownian motion, Fokker-Planck equation. * Transport through membranes, osmosis, diffusion, active transport. |
| ADDITIONAL INFORMATION: | Students should have knowledge of physics, mathematics and biology at the basic level. |