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| FACULTY: | **Faculty of Mechanical and Energy 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 |
| COURSE TITLE: | **Fundamentals of mechanical construction** |
| LECTURER’S NAME: | Łukasz Szparaga, PhD |
| E-MAIL ADDRESS OF THE LECTURER: | lukasz.szparaga@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 3 |
| 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?) | Lectures and Classes (15h + 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?) | class test (written or practical) |
| COURSE CONTENT: | 1. The role of mechanical devices (components) in systems in medical technology. Requirements for mechanical devices. 2. Properties of metal and non-metal materials used in mechanical constructions. 3. Basics of Computer aided design of mechanical structures. 4. Bearings: purpose, requirements. Overview of design solutions. 5. Dry friction, hydrodynamic friction and mixed friction at the bearings. 6. Springs: intended use, characteristics, requirements. Overview of design solutions. 7. Thermobimetals: purpose. Overview of design solutions. 8. Spring pressure elements: purpose, characteristics, requirements. Overview of design solutions. 9. Gears: purpose, requirements, characteristics. 10. Mechanisms.Construction overview. 11. Basics of designing mechanical elements and mechanisms. 12. Clutches: intended use, requirements. Types of clutches. 13. Fixed and movable seals. Requirements. Construction overview. |
| ADDITIONAL INFORMATION: | Code: 0911>1000-PKM+CAD |