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| FACULTY: | **Faculty of Mechanical and Energy 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: | **Technologies for producing metal biomaterials** |
| LECTURER’S NAME: | Mieczysław Pancielejko, PhD Eng |
| E-MAIL ADDRESS OF THE LECTURER: | mieczyslaw.pancielejko@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 5 |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | S |
| 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?) | Lecture (30h) Laboratory (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 reports/presentation |
| COURSE CONTENT: | Macroscopic metallographic testing. Methodology of microscopic metallographic research. Hardness measurements of metal alloys in medical applications. Plastic deformation and recrystallization of metals and alloys. Cast irons. Carbon steels. Heat treatment of structural steels. Alloy steels. Titanium, Copper alloys, aluminum alloys and bearing alloys. Microstructure studies of metallic biomaterials. Study of mechanical properties of alloys, implants production for dentistry and medicine. |
| ADDITIONAL INFORMATION: | Students should have basic knowledge about material engineering from previous courses  Code: 0911>1005-TWBM |