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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: | **Laboratory of sensors and medical measuring technique** |
| LECTURER’S NAME: | Robert Świta, PhD Eng |
| E-MAIL ADDRESS OF THE LECTURER: | robert.swita@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 2 |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | S |
| 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?) | Laboratory (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?) | written reports |
| COURSE CONTENT: | This course broadly reviews the modern techniques and significant applications of sensors and biosensors. Each topic provides technical details beyond the level found in typical journal articles, and explores the application of sensors and biosensors to a significant problem in biomedical science, also providing a prospectus for the future. To acquaint students with the basics of operation and construction of modern diagnostic and therapeutic medical electronics system. To familiarize students with the principles of acquisition and processing of the broader class of biomedical signals, taking into account new trends in electronics and data processing methods. The very important aspect is based on the detection of food borne pathogens by the microfluidic system devices. The new generation of biosensors can rapidly detects the food contamination. |
| ADDITIONAL INFORMATION: | General knowledge of the structure and functioning of the human body. Knowledge of physics, chemistry and electrochemistry in terms of biosensors.  Basic knowledge of materials science and biomedical engineering.  Code: 0911>1000-LSMTP |