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| FACULTY: | Faculty of Mechanical and Energy Engineering |
| FIELD OF STUDY: | Energetics |
| ERASMUS COORDINATOR OF THE FACULTY: | Prof. Łukasz Bohdal |
| E-MAIL ADDRESS OF THE COORDINATOR: | lukasz.bohdal@tu.koszalin.pl |
| COURSE TITLE: | Fundamentals of metrology |
| LECTURER’S NAME: | Prof. Krzysztof Nadolny |
| E-MAIL ADDRESS OF THE LECTURER: | krzysztof.nadolny@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 2 |
| COURSE CODE (USOS): |  |
| ACADEMIC YEAR: | 2025/2026 |
| SEMESTER:  (W – winter, S – summer) | S |
| HOURS IN SEMESTER: | Lecture: 15  Laboratory: 15 |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lecture + Laboratory |
| 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 METHOD:  (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Lecture: class test  Laboratory: written reports |
| COURSE CONTENT: | **Lecture**   * Measurement methods. Classification and characteristics of measurement methods * Probability distributions of measurement errors * Methods of processing measurement results * End length standards: types and applications * General characteristics of measuring tools for length measurements * Length measurements with caliper tools and mechanical sensors * Length measurements with micrometer instruments and mechanical-optical sensors * Pneumatic and electric sensors * Angle measurements using spirit levels, protractors, measuring rollers and balls, and sine rulers. Angle standards * Measuring machines and electronic comparators * Measurements of threads * Measurements of shape and position errors * Checking the interplay and outline of gears * Fundamentals of statistical quality control   **Laboratory**   * Measurements of external dimensions with caliper instruments * Measurements of external, internal and mixed dimensions with micrometer instruments * Measurements of internal dimensions * Measurements of angles, wedges and cones * Length measurements using mechanical, optical-mechanical and electrical sensors * Measurements of lengths and angles using measuring microscopes and projectors * Measurements of shape and position deviations * Measurements of basic parameters of gear teeth |
| ADDITIONAL INFORMATION: | The basis for the evaluation of the course is class test and preparing written reports from all laboratory exercises. |

Prof. Krzysztof Nadolny, 2025-04-02

/prepared, date /