

FACULTY:	Department of Mechanical Engineering
FIELD OF STUDY:	Transport
ERASMUS COORDINATOR OF THE FACULTY:	Dr hab. inż. Agnieszka Kułakowska, Prof. PK
E-MAIL ADDRESS OF THE COORDINATOR:	agnieszka.kulakowska@tu.koszalin.pl
COURSE TITLE:	Engineering statistic
LECTURER'S NAME:	Dr hab. inż. A Kułakowska, Prof PK
E-MAIL ADDRESS OF THE LECTURER:	agnieszka.kulakowska@tu.koszalin.pl
COURSE CODE (USOS):	8S
ECTS POINTS FOR THE COURSE:	5 ECTS
ACADEMIC YEAR:	2026/2027
SEMESTER: (W – winter, S – summer)	S
HOURS IN SEMESTER:	15
LEVEL OF THE COURSE: (1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)	1 <sup>st</sup> cycle
TEACHING METHOD: (lecture, laboratory, group tutorials, seminar, other-what type?)	Project
LANGUAGE OF INSTRUCTION:	English
ASSESSMENT METHOD: (written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?)	Personal project work
COURSE CONTENT:	<p>Statistical verification of the experimental data.  Elimination of results burdened with gross mistake.  Checking homogeneity of variance of a random variable.  Statistical grouping. Building a distribution table of a random variable and building the histogram and cumulative distribution charts.  Descriptive statistics. Classic means (arithmetic, geometric and harmonic average); Position measures (dominant, second quartile, third quartile); Measures of variation (variance, standard deviation); Value range; Classic coefficient of variation; Relative asymmetry measures; focus factor (kurtosis).  Examination of compliance of the theoretical random variable distribution with the empirical distribution.  Calculus of moments (absolute, relative, ordinary and central moments). Statistical analysis of the experimental data and development of conclusions from the analysis.  Parametric and nonparametric random variable estimation. Intervals of variation for the mean value, variance and standard deviation.  Covariance, correlation and linear regression between dependent and independent variables. Pearson's linear correlation coefficient.</p>
ADDITIONAL INFORMATION:	Every student performs project work for given personal experimental data. The project will be implemented in stages. At each stage, the teacher will prepare the necessary materials, basic formulas, statistical tables and instructions.

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