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| FACULTY: | **Faculty of Mechanical and Energy Engineering** |
| FIELD OF STUDY: | **Mechatronics** |
| ERASMUS COORDINATOR OF THE FACULTY: | Igor Maciejewski, DSc, PhD |
| E-MAIL ADDRESS OF THE COORDINATOR: | igor.maciejewski@tu.koszalin.pl |
| COURSE TITLE: | **Technical mechanics** |
| LECTURER’S NAME: | Tomasz Krzyżyński, DSc, PhD |
| E-MAIL ADDRESS OF THE LECTURER: | tomasz.krzyzynski@tu.koszalin.pl |
| ECTS POINTS FOR THE COURSE: | 3 |
| ACADEMIC YEAR: | 2024/2025 |
| SEMESTER: (W – winter, S – summer) | S |
| HOURS IN SEMESTER: | 30+15=45 |
| LEVEL OF THE COURSE:  (1st cycle, 2nd cycle, 3rd cycle) | 1st cycle |
| TEACHING METHOD:  (lecture, laboratory, group tutorials, seminar, other-what type?) | Lectures (30h) , Classes (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?) | Oral exam |
| COURSE CONTENT: | Statics:  The course begins with a review of the statics of rigid bodies which includes the identification of statically indeterminate problems. Two and three dimensional statics problems will be looked into. Next, stresses and deflections in deformable components will be analyzed. In turn, the topics covered are: simple tension, compression, and shear; thin-walled pressure vessels; torsion; and bending of beams. For each topic, statically indeterminate problems are analysed and elementary considerations of strength are introduced.  Kinematics and dynamics:  This part of course concentrates on the motion of particles, systems of particles, and rigid bodies under the action of forces and moments. Topics include the kinematics of motion in rectangular, polar, and intrinsic coordinates; relative motion analysis with multiple reference frames; and planar kinetics through the second law, work-energy method, and impulse-momentum method. Time and frequency domain solutions to first and second order equations of motion are discussed. |
| ADDITIONAL INFORMATION: | Code 0911>1400-MT |