FACULTY:	Department of Mechanical Engineering
FIELD OF STUDY:	Mechanics and Machine Building
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:	Systems of analysis and computer simulation
LECTURER'S NAME:	Dr hab. inż. Łukasz Bohdal, Prof. PK
E-MAIL ADDRESS OF THE LECTURER:	Lukasz.bohdal@tu.koszalin.pl
COURSE CODE (USOS):	10S
ECTS POINTS FOR THE COURSE:	3 ECTS
ACADEMIC YEAR:	2024/2025
SEMESTER: (W – winter, S – summer)	W
HOURS IN SEMESTER:	15 + 15
LEVEL OF THE COURSE: (1st cycle, 2nd cycle, 3rd cycle)	1st cycle
TEACHING METHOD: (lecture, laboratory, group tutorials, seminar, other-what type?)	Lecture + proj.
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 exam
COURSE CONTENT:	The scope of the course includes the following topics: Basic concepts related to the modeling of physical phenomena using numerical methods. Building computer models. Linear programming. Nonlinear programming. Examples of numerical methods: finite element method, meshfree methods. Application of numerical methods (for example: Implicit method, explicit method) in modeling of mechanical end energetic problems (stress state in materials, flow, contact problems, cracking, construction modeling, technological processes: cutting, burnishing ect.) using Finite element method (FEM), meshfree methods and CAE software.
ADDITIONAL INFORMATION:	

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