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| 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](mailto: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](mailto:Lukasz.bohdal@tu.koszalin.pl) |
| COURSE CODE (USOS): | 10S |
| ECTS POINTS FOR THE COURSE: | 3 ECTS |
| ACADEMIC YEAR: | 2023/2024 |
| 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, Polish, (separate group with English depends from number of the incoming students) |
| 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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