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| **UNIVERSITY OF NIŠ** |
| **Course Unit Descriptor** | **Faculty** | Faculty of Mechanical Engineering |
| **GENERAL INFORMATION** |
| Study Program | **Mechanical Engineering** |
| Study Module (if applicable) | - |
| Course Title | Modelling in Energy and Process Engineering |
| Level of Study | ☐ Bachelor | ☐ Master’s | ☒ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | I |
| Number of ECTS Allocated | 10 |
| Name of Lecturer/Lecturers | Dragica R. Milenković, Mladen M. Stojiljković, Branislav V. Stojanović, Mića V. Vukić |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☐ Laboratory work | ☒ Project work | ☐ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *To gain new knowledge in the field of modelling of objects and processes in energy and process engineering. To enable students to formulate independently and on scientific principles appropriate mathematical model which is related to the PhD thesis.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) **Dynamic of objects and processes.** 2) **Dynamics of flow processes:** Mathematical models of flow processes with focused parameters; Mathematical models of flow processes with distributed parameters; Deterministic and stochastic processes. 3) **Dynamics of flow-thermal processes.** 4) **Dynamics of machines and motors.** 5) **Dynamics of energetic plants:** Dynamics of hydro-energetic plants; Dynamics of thermal power plants. |
| **Language of Instruction** |
| ☒Serbian (complete course) | ☒ English (complete course) | ☐ Other \_\_\_\_\_\_\_\_\_\_\_\_\_ (complete course) |
| ☐Serbian with English mentoring | ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Assessment Methods and Criteria** |
| **Pre exam Duties** | **Points** | **Final Exam** | **Points** |
| **Activity During Lectures** | **-** | **Written Examination** | **-** |
| **Practical Work** | **50** | **Oral Examination** | **Max. 50** |
| **Teaching Colloquia or Seminar** | **-** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |