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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 | Turbulent Fluid Flow Modelling |
| Level of Study | ☐ Bachelor | ☐ Master’s | ☒ Doctoral |
| Type of Course | ☐ Obligatory | ☒ Elective |
| Semester | ☐ Autumn | ☒ Spring |
| Year of Study | II |
| Number of ECTS Allocated | 10 |
| Name of Lecturer/Lecturers | Žarko M. Stevanović, Miloš M. Jovanović, Predrag M. Živković |
| 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 turbulent flows. To enable students to formulate independently and on scientific principles appropriate models of turbulent flow which are related to PhD thesis.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Turbulent flows concept. 2) Turbulence modelling-algebraic stress models. 3) Turbulence model based on the concept of turbulent viscosity. 4) Modeling of the Turbulent Fluxes. 5) LES and DES models of turbulent flows. 6) Direct numerical simulation of turbulent flows. |
| **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** | **0** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |