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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 | Model and experimental testing of hydraulic turbomachinery and fans  |
| 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 | dr Zivan Spasić, dr Jasmina B. Bogdanović-Jovanović |
| Teaching Mode | ☒ Lectures | ☐ Group tutorials | ☐ Individual tutorials |
| ☐ Laboratory work | ☒ Project work | ☒ Seminar |
| ☐ Distance learning | ☐ Blended learning | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** |
| *Students should acquire knowledge in theory models and prototypes, acquiring skills in the methodology of measuring operating characteristics of hydraulic machines and ventilators.**The main aim is enabling students to formulate independently appropriate modelling and experimental tests, based on scientific principles, which are a function of a doctoral dissertation.* |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** |
| 1) Tasks of the model and experimental tests. Calculation of operating characteristics. 2) Experimental investigation of fluid flow in turbomachinery elements and profile cascades. 3) The laws of flow similarity. Dimensionless characteristics of fluid flow. 4) The model and experimental tests of pumps, 5) The model and experimental tests of water turbines. 6) The model and experimental tests of fans. 7) The model and experimental tests of flow through the profile cascades.  |
| **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** | **5** | **Written Examination** | **Max 40, depending on Teaching Colloquia**  |
| **Practical Teaching** | **5** | **Oral Examination** | **50** |
| **Teaching Colloquia** | **40** | **Overall Sum** | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** |