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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 | Hydromechanical equipment | | | | | | | |
| Level of Study | ☒Bachelor | | | ☐ Master’s | | | | ☐ Doctoral |
| Type of Course | ☐ Obligatory | | | ☒ Elective | | | | |
| Semester | ☐ Autumn | | | ☒ Spring | | | | |
| Year of Study | III | | | | | | | |
| Number of ECTS Allocated | 6 | | | | | | | |
| Name of Lecturer/Lecturers | Živojin M. Stamenković | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☐ Group tutorials | | | | ☐ Individual tutorials |
| ☐ Laboratory work | | | ☒ Project work | | | | ☐ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| *The aim of the course is to introduce all students to the hydro mechanical equipment used on hydro power plants. The course is targeting both the theoretical and practical aspects of the design and construction of equipment at hydro power plants.* | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| 1) Review of hydro mechanical equipment at power plants and in pump stations. 2) Types of water intake structures (Tyrolean, Lateral, in the dam structure). 3) Sand traps. 4) Grids- coarse and fine. Calculation of local resistance. 5) Control devices for flow, level and closing of hydraulic structures. 6) Gates (types, classification, calculation of the forces acting on the sluice and segment gates). 7) Valves (gate valves, butterfly, needle, sleeve, spherical or conical). 8) Preventing the backflow (check valves, performance, purpose and check valves dynamics). 9) Non-return valves with strainer basket, flap valves, dismantling joint, filters, expansion joints). 10) Pipelines under pressure. 11) The choice of pipe materials, properties, setting up a pipeline connection (welded and flanged connections). 12) Protective Equipment. Surge tanks. Special purpose valves. Air valves. 13) Measuring and control equipment in pump stations and hydro 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** | | |
| **Lecture (participation)** | | **5** | **Written Examination** | | | **0\* (50)** | | |
| **Homework** | | **5** | **Oral Examination** | | | **Max. 50** | | |
| **Project work** | | **40** | **Overall Sum** | | | **100** | | |
| **\*** **Refers to students who have already gained points by completing pre-exam requirements** | | | | | | | | |