



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	<input checked="" type="checkbox"/> Bachelor	<input type="checkbox"/> Master's	<input type="checkbox"/> Doctoral
Type of Course	<input type="checkbox"/> Obligatory	<input checked="" type="checkbox"/> Elective	
Semester	<input type="checkbox"/> Autumn	<input checked="" type="checkbox"/> Spring	
Year of Study	III		
Number of ECTS Allocated	6		
Name of Lecturer/Lecturers	Živojin M. Stamenković		
Teaching Mode	<input checked="" type="checkbox"/> Lectures	<input type="checkbox"/> Group tutorials	<input type="checkbox"/> Individual tutorials
	<input type="checkbox"/> Laboratory work	<input checked="" type="checkbox"/> Project work	<input type="checkbox"/> Seminar
	<input type="checkbox"/> Distance learning	<input type="checkbox"/> Blended learning	<input type="checkbox"/> 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
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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			