

Faculty of Civil Engineering / INFRASTRUKTURE /

Prerequisites	No conditionality
Aims	Enabling students to participate in the design and construction of hydro-technical structures.
Lecturer / Teaching assistant	Dr Jelena Pejović
Method	Lectures, exercises, semester works, fieldwork
Week 1, lectures	Introduction. Introduction to hydro-technical structures. Basic types of hydro-technical structures.
Week 1, exercises	Introduction. Introduction to hydro-technical structures. Basic types of hydro-technical structures.
Week 2, lectures	Loads. Loads analysis and seismic impacts.
Week 2, exercises	Loads. Loads analysis and seismic impacts.
Week 3, lectures	Hydro-technical materials. Geo-technical characteristics of the environment for hydro-technical structure foundation.
Week 3, exercises	Hydro-technical materials. Geo-technical characteristics of the environment for hydro-technical structure foundation.
Week 4, lectures	Dams. Classification and basic characteristics of various types of dams. Dam data and dam type selection.
Week 4, exercises	Dams. Classification and basic characteristics of various types of dams. Dam data and dam type selection.
Week 5, lectures	Gravity and lightweight concrete dams. Disposition with water evacuation facilities.
Week 5, exercises	Gravity and lightweight concrete dams. Disposition with water evacuation facilities.
Week 6, lectures	Stability of concrete gravity dams. General stability calculation.
Week 6, exercises	Stability of concrete gravity dams. General stability calculation.
Week 7, lectures	Arch dams. Disposition. Terms and conditions of design. Review of calculation methods.
Week 7, exercises	Arch dams. Disposition. Terms and conditions of design. Review of calculation methods.
Week 8, lectures	Earth and Rock-fill Dams.
Week 8, exercises	Earth and Rock-fill Dams.
Week 9, lectures	Water evacuation buildings. Bypass tunnels and canals. Overflows, drains, rapids and waterfalls.
Week 9, exercises	Water evacuation buildings. Bypass tunnels and canals. Overflows, drains, rapids and waterfalls.
Week 10, lectures	Testing of knowledge.
Week 10, exercises	Testing of knowledge.
Week 11, lectures	Hydraulic structures for water abstraction. Entrance structures. Surface and depth construction.
Week 11, exercises	Hydraulic structures for water abstraction. Entrance structures. Surface and depth construction.
Week 12, lectures	Water transport buildings. Channels. Hydraulic tunnels. Pipelines.
Week 12, exercises	Water transport buildings. Channels. Hydraulic tunnels. Pipelines.
Week 13, lectures	Facilities on the Water transport buildings. Crossing objects.
Week 13, exercises	Facilities on the Water transport buildings. Crossing objects.
Week 14, lectures	Visit to the HE Perućica and Piva.
Week 14, exercises	Visit to the HE Perućica and Piva.
Week 15, lectures	Testing of knowledge.
Week 15, exercises	Testing of knowledge.
Student obligations	Attendance at lectures and exercises, making semester works.
Consultations	
Workload	Weekly 5 credits x 40/30 = 6.67 hours Structure: 2 hours of lectures 2 hours of exercise 2.67 hours of independent work, including consultations.
Literature	

Examination methods	Knowledge and understanding shown during the exercises 0 do 15; Semesteral work 0 do 15; Theoretical part of the final exam 0 do 30; Analytical part of the final exam 0 do 40.
Special remarks	
Comment	Additional information about the subject can be obtained from the teacher, teaching assistant, head of the study program and vice dean for teaching.
Learning outcomes	Students will be able for independent participation in design, construction and maintenance of hydro-technical structures.