

Study Programme: Civil Engineering			
Course Unit Title: Hydrotechnical Ameliorations			
Course Unit Code: GH406			
Name of Lecturer(s): Kolaković Srđan			
Type and Level of Studies: bachelor			
Course Status (compulsory/elective): elective			
Semester (winter/ summer): summer			
Language of instruction: english			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: none			
Course Aims: Introducing students with practical problems and acquiring professional knowledge for the application in practice in the field of drainage and irrigation of agriculture cultures.			
Learning Outcomes: Acquired knowledge is used in engineering practice.			
Syllabus. Fundamentals in designing hydrotechnical amelioration. Processing hydro-meteorological foundations, foundations on soil, water regime in the soil, data on water usage – water balance, etc. Drainage. Surplus water, soil and groundwater (drainage hydro module, time for drainage). Possibilities and manners for surplus water drainage. Drainage systems (open, closed, combined). Designing, construction, exploitation and drainage in the drainage system. Drainage facilities (canals, drains, collectors, pumping stations, bridges, culverts, cascades, dams, etc.). Irrigation. Water balance, water deficit and the role of soil in irrigation. Calculating module, norm and tours of irrigation. Soil irrigation methods (irrigating, overflowing, channels, drop-by-drop, underground irrigation, etc.). Calculating the optimization for the irrigation system. Designing, construction, power and maintenance of the irrigation system. Facilities in irrigation (canals, pipelines, water catchments, pumping stations, regulation facilities, other system facilities).			
Required Reading: Relevant literature in English, tbd			
Weekly Contact Hours:2	Lectures: 4	Practical work: 2	
Teaching Methods: Teaching is performed interactively in the form of lectures, auditory and computer practice. At lectures, theoretical content is presented with characteristic examples for easier understanding of the course content. In auditory practice, characteristic tasks are done and course content is presented in more details. Apart from lectures and practice, consultations are also regular. A part of course content that constitutes a logical unit can be taken as a partial examination during the teaching process. Partial examinations are taken in written form and as tests. Examination grade is formed on the basis of: lecture and practice attendance, success in partial examinations and written part of the examination (combined exercises and theory).			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Attendance			
Computer exercises			
Tests (4x)			

