Course Unit Descriptor

Study Programme: Civil Engineering

Course Unit Title: Flood protection

Course Unit Code: GH522

Name of Lecturer(s): Kolaković Slobodan

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:.

Acquiring theoretical knowledge and advanced methods and techniques of research of flood waves and flood risk. In addition, introducing students to the new strategy of flood management.

Learning Outcomes:
Enabling students to plan and anticipate possible flood risks to properties and people, vulnerability and jeopardizing of people and to specify measures of flood wave management in order to reduce and mitigate the damage.

Syllabus.
Selection and analysis of flood waves. Analysis of flood damage, conditions which result in damage and damage categories. Numerical and hydraulic analyses with the application of 1D and 2D flow modelling in open channels. Simulation of possible scenarios of extreme floods in order to provide a better understanding of flood wave control and reduce the damage. Specifying measures and strategies for the development of the flood management plan. Development of flood maps and flood risk maps for the design flood. Adjustment of the development planning to the degree of actual risk. Regulations on flood protection. Monitoring and taking measures for prevention of flood protective structures. Specifying minimum time required for evacuation in case of breaching of embankments and other protective structures. Remediation of consequences of extreme floods and inundation of urban and agricultural areas.

Required Reading:
Relevant literature in English, tbd

Weekly Contact Hours:2	**Lectures: 3**	**Practical work: 1**

Teaching Methods:
Teaching is performed interactively in the form of lectures, auditory, laboratory and computer practice.Certain problems are solved through lectures, discussions and computer simulations. Lectures are accompanied with numerous real-life cases.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			