Course Unit Descriptor

Study Programme: Landscape Architecture

Course Unit Title: Fundamentals of Hydrology

Course Unit Code: 19.URV018

Name of Lecturer(s): Associate Professor Boško Blagojević, PhD

Type and Level of Studies: Bachelor

Course Status (compulsory/elective): Compulsory

Semester (winter/summer): 4 (summer)

Language of instruction: English

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 6

Prerequisites: None

Course Aims:

The aim of the course is to acquaint students with the basic aspects of hydrology as a science of water in all types of its appearance on Earth.

Learning Outcomes:

The ability of the student to apply appropriate theoretical knowledge in order to solve the given task from hydrology. Knowledge related to hydrological methods which is necessary to solve many practical problems that fall into different areas of human activity related to water.

Syllabus:

Theory

Definition, subject, tasks and history of hydrology. Hydrological cycle. Basic elements of river basin. Daily and annual precipitation. Influence of various factors on precipitation. Evaporation from water surface. Evapotranspiration. Interception. Climatic indicators. Infiltration. Methods for determining infiltration capacity. Hydrometry: Measuring water levels. Water depth measurement. Water flow measurement. Measurement of river sediment transport. Observing the ice on rivers. Water quality monitoring. Dependence between water level and water flow. Groundwater. Origin and movement of groundwater. Organization of a network of hydrological stations. Basic processing of hydrological data.

Practice

Morphometric characteristics of basins and watercourses. Computation of average precipitation. Estimation of precipitation height. Determination of precipitation height and intensity. Evaporation from water surfaces. Computation of evapotranspiration. Water balance calculation. Determination of infiltration capacity using multiple methods. Water level measurement. Determination of water velocity-hydrometric wing. Determination of water flow. Hydrological data processing. Extrapolation of the flow curve.

Required Reading:

Davie T. Fundamentals of hydrology. Routledge, 2008.
Te Chow V. Applied hydrology. McGraw-Hill Education 2010.
Rajić M., Josimov Dunđerski J. Opšta hidrologija. Poljoprivredni fakultet, Novi Sad. 2009

Weekly Contact Hours:	**Lectures:** 2x15	**Practical work:** 2x15

Teaching Methods:

Lectures and practical classes, completion of seminar paper, consultations

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Active class participation	10	written exam	
Practical work	10	oral exam	40
Tests	2x20=40	…….	
Seminar(s)			