

Study Programme: Sustainable Agriculture, Food Production and Food Technology in the Danube Region
Course Unit Title: Hydroecology
Course Unit Code:
Name of Lecturer(s): Assistant professor Jasna Grabić
Type and Level of Studies: master
Course Status (compulsory/elective): Compulsory
Semester (winter/summer): winter
Language of instruction: English
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 6
Prerequisites: -
<p>Course Aims:</p> <p>Adoption of the basic concepts of hydrology and ecology, as well as the introduction to modern approaches to water quality management in agriculture and the environment.</p>
<p>Learning Outcomes:</p> <p>Knowledge gained from freshwater ecology is the basis for understanding the hydrological and ecological processes. Students become competent to work in the field of the water management in agriculture and the environment, since it will provide basic knowledge about water, factors that threaten its quality and contemporary water quality modeling methods.</p>
<p>Syllabus:</p> <p><i>Theory</i></p> <p>Definitions and basic concepts of hydrology and ecology. The parameters of water quality. The significance of oxygen in the aqueous environment. The most common sources of water pollution (concentrated and dispersed pollutants). The importance of nutrient cycling in the environment (nitrogen, phosphorous, etc.). Eutrophic processes in water bodies. Trophic level of aquatic ecosystems. Determining the degree of contamination on the basis of biocenosis. Biological and ecological minimum and in-stream flows maintaining. Modeling water quality: definition, historical overview and development of water quality models. Divisions and examples of water quality models. Hydroecology and river restoration with examples.</p> <p><i>Practice</i></p> <p>Field work on sampling of water from surface water bodies and laboratory work on analyzing water quality parameters.</p>
<p>Required Reading:</p> <ol style="list-style-type: none"> 1. Wood P. J., Hannah, D. M., Sadler J.P. eds (2008): Hydroecology and Ecohydrology: Past, Present and Future. John Wiley & Sons Ltd, Chichester, UK. 2. USDA- Natural Resource Conservation Service (2007): Stream Restoration Design, National Engineering Handbook, Part 654. USDA, Washington, DC. 3. Jarrell WM. (1998): Getting Started With TMDLs. Oregon Institute of Science and Technology, Portland, OR, USA.

Weekly Contact Hours: 6	Lectures: 3	Practical work: 3	
Teaching Methods: Lectures, practical work			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	Points 50	Final exam	Points 50
Active class participation	5	written exam	-
Practical work	5	oral exam	50
Test	10	
Seminar	20		
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			