Course Unit Descriptor

Study Programme: MSc in Biology

Course Unit Title: : Ecoremediation of Waterecosystems

Course Unit Code: DBO35

Name of Lecturer(s): Dr Zorica Svirčev

Type and Level of Studies: Integrated studies

Course Status (compulsory/elective): Elective

Semester (winter/summer): Winter

Language of instruction: English or Serbian

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

Number of ECTS Allocated: 8

Prerequisites: none

Course Aims: Course is designed to acquaint students with the principles of water management and the possibilities of using the structure and function of ecosystems in order to care, treat and restore the water ecosystems (water retention, preventing erosion and flooding, system restoration and preservation of biodiversity).

Learning Outcomes: Passing the course of ecoremdiation students are expected to:

demonstrate willingness and ability of interpretation of the concept of using natural processes and systems in water protection, preservation and purification of polluted aquatic environment; control and actively use all the features and benefits of ecosystem technology in the protection, restoration and treatment of aquatic ecosystems.

Syllabus:

Theoretical part

Theoretical basis of ecoremediation. Ecoremediation in the past. The most popular ecoremediation methods in the system of protection, rehabilitation and preservation of aquatic ecosystems (standing water, running water, irrigation systems, flood protection, water recycling for various purposes, ground water) systems. Wetlands – definition and strategy. Ecoremediation prospects in project implementation for water purification and protection, such as making ERM strategy in Vojvodina and Serbia.

Required Reading:

- 1. Svirčev Z., Vrhovšek D., Marković S., Bulc T. (2008): Ecoremediation. Internal Scripts (in Serbian).
- 2. Herson D.S. (1994): Bioremediation. McGraw-Hill. New York (in English).
- 3. Mueller B. (2001): Phytotechnology Technical and Regulatory Guidance Document. Interstate Technology and Regulatory Cooperation (ITRC) Work Group. Phytotechnologies Work Team. Washington (in English).
- 4. Vrhovšek, D., Bulc, T. (2002): Ekoremediacije kot metoda za zaščito vodnih ekosistemov. V: Okolje brez meja: odpadne vode in ravnanje z odpadki : strokovni posvet in ekskurzija. Ljubljana (in Slovenian).
- 5. Wetzel R.G. (2001): Limnology. Academic Press, San Diego, London (in English).

Weekly Contact Hours: 3 Lectures: 3 Practical work:

Teaching Methods:

Lectures

Knowledge Assessment (maximum of 100 points):

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| Active class | 10 | written exam (practical) | |
|---------------------|----|--------------------------|----|
| participation | 10 | written exam (praetical) | |
| Practical work | | oral exam | 50 |
| Preliminary exam(s) | 30 | | |
| Seminar(s) | 10 | | |

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.