

Study program: Environmental protection			
Type and level of study: Master academic studies			
Course Title: BIOMONITORING			
Teachers: Snežana Štrbac			
Status: Mandatory, II semester			
ECTS: 8			
Prerequisite: None			
The goal of course Theoretical and practical knowledge in the field of bio-monitoring. special emphasis is will be the study of the most important bio-indicators and their practical application to determine the quality of the environment.			
The outcome of the subject Students will be able to apply their knowledge in the field of bio-monitoring and apply organisms as indicators of environmental quality.			
Syllabus <i>Theoretical study –</i> Introduction. Definitions, basic principles and history studies. Advantages and disadvantages of biomonitoring. Levels of biomonitoring. Methods in biomonitoring. Types and characteristics of bio-indicators. Aquatic organisms (algae, aquatic macrophytes, zooplankton, zoobenthos, fish) as bioindicators. Terrestrial organisms (lichens, mosses, insects) as bioindicators. Microorganisms as bioindicators. Analysis of communities of organisms (file structure of communities and populations of organisms as indicators of environmental conditions). Methods of data collection (field sampling methods, laboratory methods and analysis of products). Analysis of data (categories of data, analysis of diversity indices proportion indices of similarity and diversity). The term referentih conditions. The concept of eco-regions. Indicators of environmental quality (trophic and saprobic indices, the index of biotic integrity, benthic index of biotic integrity, etc.). The method of rapid assessment (instructions for routine sampling and analysis). <i>Practical classes –</i> Exercises with practical examples, introduction to the most important indices of environmental quality (diversity indices, trophic, saprobity, IBI, B-IBI) and the calculation of the index in order to determine the conditions and monitoring changes in the state of the environment.			
Literature Cvijan M., 2000th Ecology polluted environment, biological indicators and monitoring, Belgrade. Simic, S., And Simic, V., 2009th Ecology of inland waters (Hydrobiology I). University of Kragujevac, Faculty of Science and the University of Belgrade, Faculty of Biology. Kovacs (editor): Biological indicators in environmental protection; Akademia Kiado & Ellis Horwood; Budapest-Chichester 1992. Ziglio, G., G. Flaim, and M. Siligardi, 2006. Biological Monitoring of Rivers. 486 pp. Allan, J. D., and M. M. Castilo, 2007. Stream Ecology: Structure and function of running water. 436 pp.			
Number of lectures:			Other Classes
Lectures: 3	Practices: 1	Other forms of teaching: 2	
Teaching methods: Lectures, exercises, consultations, small group work, pair work, individual work, with the use of audio-visual aids.			
Score (maximum 100 points)			
Pre-commitments	Poens	The final exam	Poens
Activity during lectures	10	Written exam	40
Practical classes	20	Oral examination	
Colloquia	30		
Seminars			
<i>Total</i>	60		