

Study Programme: Doctoral Academic Studies in Environmental Protection		
Course Title: Biological principles in environmental protection	Course code:	DZZS-603
Course status: elective		
ECTS: 15		
Requirements: none		
Course Objective: The course objective is to promote ecosystem approach in contemporary concepts of environmental protection. It provides a truly comprehensive overview of the complexity of the biological system and puts the fundamental ecological principles and postulates as a focus of scientifically sound environmental policy management practice.		
Course Outcome: Successful candidates should acquire principles of ecosystem goods and services concept, should be enabled for decision making, independently or as members of interdisciplinary teams, based on critically analysed results of biomonitoring and respective ecological risk assessment programs.		
Course Content: Ecosystems: natural, man-made, terrestrial, aquatic. Ecosystem integrity and sustainability. Ecosystem functions, goods and services. Ecosystems in environmental protection and nature conservation. Basic ecological principles, processes and ecosystem approach to environmental protection. Anthropogenic pressures to ecosystem functions and services of terrestrial and aquatic ecosystems: direct and indirect impact of toxic pollutants, global changes and habitat alterations. Biological methods in retrospect ecological risk assessment: quantification, impact assessment, trend analysis and prognostics, mitigation of adverse ecological individual and multi stress ecological impact. Ecosystem approach to sustainable development and good management practice in environmental protection. Ecosystem restoration – rational, basic principles and examples of good management practices. Evaluation and critical assessment of integration of ecosystem approach in policy and management practice: Case study of the Danube River Basin		
Active teaching hours: 150 (75+75)	Lectures: 5 (75)	Study Research Work: 5 (75)