

Faculty of Science and Mathematics / BIOLOGY-ECOLOGY / BIOINDICATORS AND MONITORING SYSTEM

Course:	BIOINDICATORS AND MONITORING SYSTEM			
Course ID	Course status	Semester	ECTS credits	Lessons (Lessons+Exercises+Laboratory)
6993	Mandatory	2	6	3+0+2
Programs	BIOLOGY-ECOLOGY			
Prerequisites	Preconditions by other subjects are not established.			
Aims	: One of the fundamental aspects of the quality of life is its connection to the quality of the environment. Spatial and timeline distribution and density of plant and animal species are functionally connected to the external factors and changes in the ecosystems. The aim of this subject is to transmit basic knowledge on pollution of the biosphere, methods and monitoring of environmental quality, bioindicators and bio indicator organisms.			
Learning outcomes	Bioindicators and monitoring system (semester VI ECTS 6, 3 + 2) After passing this exam, students will be able to: o knows the methods for evaluation and monitoring of environmental quality, o define bioindicators, bioindication and stress, o to know about the sources of atmospheric pollution, the effects of pollutants from the atmosphere on the flora, fauna and human health, o define bioindicators of air pollution, o explain ways of monitoring and control of air pollution, o describe the sources of pollution of land and change its properties, o explain biomonitoring of polluted land, o defines the hydrosphere, sources of pollution of the hydrosphere, o to understand the impact of physical / thermal, chemical and biological contamination of aquatic ecosystems, o to know the processes related to natural and artificial aging LAKES eutrophication, trophic zones, o understand the processes related to the pollution of aquatic ecosystems, saprobity, o define bioindicators of water pollution, o understand fusing self-purification of water / autopurification, o to know to explain water monitoring.			
Lecturer / Teaching assistant	Prof.dr Marijana Krivokapic Mr Mihailo Jovicevic			
Methodology	Teaching and Studying: Lectures, consultations, colloquiums, laboratory exercises			
Plan and program of work				
Preparing week	Preparation and registration of the semester			
I week lectures	Methods for evaluating and monitoring the quality of the environment			
I week exercises	x			
II week lectures	Bioindicators, bioindication, stress.			
II week exercises	x			
III week lectures	Atmosphere, pollutants to the atmosphere			
III week exercises	x			
IV week lectures	Polluting substances in the atmosphere.			
IV week exercises	x			
V week lectures	Effects of pollutants from the atmosphere on flora, fauna and human health. Effects on the materials.			
V week exercises	x			
VI week lectures	Bioindicator of the air pollution.Monitoring and control of the air pollution			
VI week exercises	x			
VII week lectures	Colloquium I			
VII week exercises	x			
VIII week lectures	Ecological land significance.			
VIII week exercises	x			
IX week lectures	Sources of land pollution. Depositing waste. Destruction of the soil surface.			
IX week exercises	x			
X week lectures	Bioindicator of the soil pollution. Monitoring. Land autopurification.			
X week exercises	x			
XI week lectures	Hydrosphere. Water as an ecological factor and its role.			

XI week exercises	x					
XII week lectures	Pollution of the hydrosphere I- by source.					
XII week exercises	x					
XIII week lectures	Colloquium II					
XIII week exercises	x					
XIV week lectures	Pollution of the hydrosphere II-according to the type of pollution.					
XIV week exercises	x					
XV week lectures	Eutrophication, saprobity, bioindicators of the water pollution. Monitoring.					
XV week exercises	x					
Student workload	In the semester: Teaching and the final exam: 8 hours x 16 = 128 hours Necessary preparation before semester start (administration, enrolment, verification etc) 2 x 8 hours = 16 hours Total workload for the subject 6x30 = 180 hours Additional work for exams preparation in the final exam, including the corrective exam taking from 0 to 30 hours (rest of the time of the first two items for total workload for the subject of 240 hours) 36 hours Structure of the owerload: 128 hours (lectures) + 16 hours (preparation)					
Per week			Per semester			
6 credits x 40/30=8 hours and 0 minuts 3 sat(a) theoretical classes 2 sat(a) practical classes 0 excercises 3 hour(s) i 0 minuts of independent work, including consultations			Classes and final exam: 8 hour(s) i 0 minuts x 16 =128 hour(s) i 0 minuts Necessary preparation before the beginning of the semester (administration, registration, certification): 8 hour(s) i 0 minuts x 2 =16 hour(s) i 0 minuts Total workload for the subject: 6 x 30=180 hour(s) Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) 36 hour(s) i 0 minuts Workload structure: 128 hour(s) i 0 minuts (cources), 16 hour(s) i 0 minuts (preparation), 36 hour(s) i 0 minuts (additional work)			
Student obligations			Students are required to attend lectures and all forms of testing knowledge.			
Consultations			By appointment.			
Literature			N.M.Van Straleen (2001) Bioindicator system. Imperial College Press, 350 pp. Moore, Gary. S. (2002): Living with the Eart, 596 pp. Lewis publisher company. Library of Congress cataloging. USA.			
Examination methods			: Students are required to attend lectures and all forms of testing knowledge. Attendance and activities in the tuition = 5 points 2 colloquiums 25 x 2 = 50 points Practical exam = 10 points Final exam = 35 points. Passing grade is obtained in the c			
Special remarks						
Comment						
Grade:	F	E	D	C	B	A
Number of points	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points