

<b>Study program :</b> ECOLOGY				
<b>Type and level of studies:</b> MASTER ACADEMIC STUDY OF ECOLOGY				
<b>Course unit:</b> Monitoring of Soil Fauna				
<b>Teacher in charge :</b> Mirjana Stojanović-Petrović, Ph.D., Associate Professor				
<b>Language of instruction:</b> English				
<b>ECTS:</b> 5				
<b>Prerequisites:</b> /				
<b>Semester:</b> Summer Semester				
<b>Course unit objective:</b> Acquiring accurate and detailed knowledge of soil science, systematics and ecology of soil animals with special emphasis on biomonitoring and conservation ecology of soil fauna				
<b>Learning outcomes of Course unit:</b> By the end of this course, you will be able to: (1) through written and verbal work, demonstrate understanding of the linkages among soil formation and development, and soil characteristics, and soil organisms;(2) independently design and execute a scientific experiment in soil ecology; (3) write a research proposal and scientific paper about your soil ecology experiment;(4) conduct laboratory assays of various soil properties. Skill of searching and finding the most appropriate and purposeful literature using a computer. Skill linking previously acquired knowledge and experience in the field of the present case. The logical thinking (linking and interpretation of natural knowledge with the results), increasing knowledge of the animal world and its importance in the soil ecosystems in general, the usefulness of the Internet.				
<b>Course unit contents</b>				
<p><i>Theoretical classes:</i> Introduction to basic properties of soil like, soil structure, types of soil, soil composition, permeability rate, and soil fauna Living conditions in the soil. Microfauna, mezofauna, macrofauna and megafauna in the soil. The diversity of soil fauna. Examples. Monitoring systems of environment, definition. The importance and aim of monitoring the environmental protection system. Biological monitoring. Basic properties of bioindication, the definitions, strategies. Bioindicators definition. Classification of bioindicators. Indicators of biodiversity . McGeoch's selective procedure for determination of the species type for bioindication. Bioindicator species in theory and practice, examples. Bioindicator species in natural and controlled conditions.</p> <p>Insects and Lumbricidae as bioindicators. Importance of indicator species of soil fauna in biodiversity protection in situ conditions. Classification of the rтреарен factors . New approaches to monitoring studies of terrestrial ecosystems. Conditions for the starting a complex monitoring. Disturbed terrestrial ecosystems. The methods of passive and active biomonitoring. Examples. Method of active monitoring and utilization of the test-organisms, standardized methods, xenobiotics. Biological monitoring and specificity cave pedofauna. Ecotoxicology, "bioassay". The possibility of applying in our laboratories. The structure of land communities as bioindicators. The examples and the meso and macrofauna in the soil. Importance of soil fauna conservation in the process of biomonitoring. A brief history and basic characteristics of soil fauna conservation. Examples for the meso and macro fauna. The concept of species and conservation. The diagnosis of rare species and the factors that affect the distribution. Diagnosis and classification of threatened species and threat factors in relation to the IUCN criteria and classification of threatened species. The assessment of the latest global parameters required for assessing threat status. Modification of the IUCN criteria for analyzing the soil fauna. Red List. Red Book.</p> <p><i>Practical classes:</i> Exercises will include mastering the methods of active monitoring and utilization of the test-organisms, as well as field sampling, fixation and transport of samples, introduce the basic characteristics of animals that will be used in the experiments. Use of "keys" for identification. The exercises will include an experiment, where it will be monitored the changes in the indicator species under the influence of selected factors.</p>				
<b>Literature</b>				
<p>IUCN 2011. IUCN Red List Categories and Criteria: version 3.1. IUCN Species Survival Commission. IUCN. Global Ecology M I Budyko Progress Publishers, Moscow</p> <p>Indian Society of Soil Science. 2002. <i>Fundamentals of Soil Science</i>. ISSS, New Delhi.Coleman D. C., Crossley D. C., 1995: Fundamentals of soil ecology. Academic Press, 205 pp.</p> <p>Gero Benckiser, Fauna in Soil Ecosystems: Recycling Processes, Nutrient Fluxes, and Agricultural Production, Hardcover, 1997</p>				
<b>Number of active teaching hours</b>				<b>Other classes</b>
Lectures:	Practice:	Other forms of classes: Mentoring (consultative) system	Independent work:	
<b>Teaching methods:</b> The research-oriented teaching, with an emphasis on the individual and their independent work of the candidate.				
<b>Examination methods ( maximum 100 points)</b>				

<b>Exam prerequisites</b>	<b>No. of points:</b>	<b>Final exam</b>	<b>No. of points:</b>
Student's activity during lectures		oral examination	30
practical classes		written examination	20
Seminars	20	.....	
Test	30		
Other			
<b>Grading system</b>			
<b>Grade</b>	<b>No. of points</b>	<b>Description</b>	
10	91 - 100	Excellent	
9	81 - 90	Exceptionally good	
8	71 - 80	Very good	
7	61 - 70	Good	
6	51 - 60	Passing	
5	< 50	Failing	