

Annotation of the selective educational component

Academic discipline	Reservoirs bioindication
Lecturer	Petro Vered Candidate of Agricultural Sciences, Assistant professor Department of Ecology and Biotechnology
The course and semester, when the discipline is planning to study	2 nd course, 3 th semester
Faculties whose students are invited to study discipline	Faculty of Ecology
List of competencies and learning-related outcomes that discipline provides	<p>According to the requirements of the educational and professional program "Aquatic bioresources and aquaculture", students must acquire the ability to acquire the following competencies:</p> <p>GC (general competence) 9. Ability to apply knowledge in practical situations.</p> <p>GC 12. Ability to conduct research at the level.</p> <p>PC (professional competence) 1. Ability to analyze the conditions of the aquatic environment of natural origin, including anthropogenic impacts, in terms of fundamental principles and knowledge of aquatic bioresources and aquaculture.</p> <p>PC 10. Ability to conduct experiments with aquatic bioresources and aquaculture independently, and to describe, analyze and critically evaluate experimental data.</p> <p>The result of training in the discipline is the acquisition by students of such knowledge and skills:</p> <ul style="list-style-type: none"> • Use knowledge and understanding of biotopes of water bodies, life forms of aquatic organisms, the influence of factors on aquatic organisms, their vital activity, populations of aquatic organisms and hydrobiocenoses, hydrobiology of seas, oceans, continental water bodies when growing objects of aquatic biological resources. • Apply the skills of performing experiments to test hypotheses and study the phenomena of biophysical patterns occurring in aquatic biological resources and aquaculture. • Collect and analyze data, including error analysis and critical evaluation of the obtained results of the specialty aquatic bioresources and aquaculture.
Description of the discipline	
Preconditions necessary for the study of the discipline	The academic discipline is based on the knowledge of such disciplines as "Introduction to the profession", "Hydrochemistry", and "Hydroecology".
The maximum number of students who can study simultaneously	Lectures - 50 students Practical - 25 students

<p>Lesson plans</p>	<p>Lectures</p> <ol style="list-style-type: none"> 1. Introductory. Earth's hydrosphere, its significance and biological control. 2. Water quality classes in Ukraine and the EU. 3. Bioindicators and their features. 4. The impact of changing environmental conditions on the development of aquatic organisms. 5. The role of bioindication in biological risk assessment. 6. Biological control by means of saprobity. 7. Biological analysis of activated sludge. 8. Assessment of the ecological state of water bodies by macrophytes. 9. Classification of waters by trophicity. 10. Assessment of the ecological state of water bodies by hydrobionts. 11. Bioindication of radiation pollution of water bodies. 12. Impact of estuary desalination on the species composition of flora and fauna. 13. Determination of the ecological state of water bodies by the composition of aquatic macroinvertebrates. <p>Practical classes</p> <ol style="list-style-type: none"> 1. Sampling of natural objects for bioindicative studies. 2. Scheme for describing the reservoir. 3. Methodology for assessing the toxicity of water sources and soils using bioindicative methods. 4. Determination of the water quality class in Ros and Protoka (Bila Tserkva) by bioindication methods. 5. Determination of the ecological state of the reservoir by aquatic plants. 6. Sanitary and bacteriological examination of water. 7. Sampling of macroinvertebrates. 8. Calculation of the modified Mayer index. 9. Calculation of the macrophyte index (MI). <p>Teaching language</p> <p>Ukrainian</p>
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