

Annotation of the selective educational component

Academic discipline	General Ecology
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The course and semester, when the discipline is planning to study	1st course, 2nd 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 competencies):</p> <ul style="list-style-type: none"> - Ability to search, process, and analyze information from various sources. - Knowledge and understanding of the subject area and professional activities. - Ability to learn and master modern knowledge. <p>SC (Special competencies):</p> <ul style="list-style-type: none"> - 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. - Ability to investigate biochemical, hydrobiological, hydrochemical, genetic, and other changes in aquatic biological resources and aquaculture and habitats. <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"> - Be fluent in the state language, in particular, special terminology, and communicate freely orally and in writing on professional issues. - Use international and national standards and practices in professional activities. - 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, hydroecosystems, hydrobiology of seas, oceans, continental water bodies when growing objects of aquatic biological resources. - Know the main historical stages in the development of the subject area of research.

Description of the discipline	
Preconditions necessary for the study of the discipline	The academic discipline "General Ecology" is based on the knowledge of such disciplines: "Applied Mathematics", "Hydrochemistry", "Zoology", and "Reservoirs Bioindication".
The maximum number of students who can study simultaneously	Lectures - 50 students Practical - 25 students
Lesson plans	<p>Lectures</p> <p>Content module 1. Introduction to ecology. Fundamentals of aut-, dem-, and synecology</p> <p>Topic 1. Environmental factors and their classification.</p> <p>Topic 2. Climatic causes.</p> <p>Topic 3. Factors of the aquatic environment.</p> <p>Topic 4. Edaphic factors.</p> <p>Topic 5. Biotic factors.</p> <p>Topic 6. General patterns of the impact of environmental factors on living organisms (basic environmental laws and scientific base).</p> <p>Topic 7. The concept of population ecology. The population as a general biological unit.</p> <p>Topic 8. Population dynamics. Interactions between organisms within and outside a population.</p> <p>Topic 9. Biocenosis as a natural system.</p> <p>Topic 10. Biogeocenology.</p> <p>Topic 11. Ecological systems.</p> <p>Content module 2. Global ecology and environmental management</p> <p>Topic 1. Biospherology. Evolution of the biosphere. The modern concept of the biosphere.</p> <p>Topic 2. Functions of the state system of environmental management.</p> <p>Topic 3. Environmental legislation of Ukraine.</p> <p>Content module 3. Applied ecology - main industries and directions</p> <p>Topic 1. Natural trends in the development of environmental science - theoretical and applied aspects.</p> <p>Topic 2. Industrial areas of ecology.</p> <p>Topic 3. The main directions of development of the greening of social activities.</p> <p>Topic 4. Applied aspects of ecology (anthropogenic degradation of the biosphere).</p> <p>Practical classes</p> <p>Content module 1. Introduction to ecology. Fundamentals of aut-, dem-, and synecology</p> <p>1. Methodology and methodology of environmental research.</p> <p>2. study of the theoretical provisions of modern ecology</p>

	<p>(environmental definitions, concepts, causes, laws).</p> <p>3. study of modern ways of the state of the environment.</p> <p>4. Bioindication. Anatomical, morphological and ecological features of lichens and mosses.</p> <p>5. Autecological studies of plants and animals.</p> <p>6. Population studies.</p> <p>7. Analysis of the age and sex structures of populations.</p> <p>8. Ecosystem and its structure. The study of the characteristic features of different ecosystems.</p> <p>9. study of the role of producers and decomposers in ecosystems.</p> <p>10. Fundamentals of synecology. Assessment of the initial performance of ecosystems.</p> <p>Content module 2. Global ecology and environmental management</p> <p>11. Ecological studies of living matter. Ecology of plants, animals, and microorganisms</p> <p>12. Development of productive forces and anthropogenic impact on the environment. Study of the main sources of environmental impacts.</p> <p>13. Economic mechanism for managing the process of nature management and legal regulation of environmental protection</p> <p>14. Economical methods of management, regulation of rational use of natural resources, and environmental protection. Economic and social efficiency of the implementation of environmental measures.</p> <p>Content module 3. Applied ecology - main industries and directions</p> <p>15. Determination of the ecological state of the air. Estimation of air dust content.</p> <p>16. Determination of the ecological state of soils</p> <p>17. Study of the green protection zone of the site.</p> <p>18. Assessment of the impact of vehicles on the state of the environment</p> <p>19. Assessment of the level of radiation background and contamination of water, soil, and food products.</p> <p>20. Ecological and sociological study of the area.</p>
<p>Teaching language</p>	<p>Ukrainian</p>