Annotation of the selective educational component

Academic discipline	**Fundamentals of mariculture**
Lecturer	Alla Trofymchuk Candidate of Agricultural Sciences, Associate Professor Department of Ichthyology and Zoology
The course and semester, when the discipline is planning to study	3rd course, 5th semester
Faculties whose students are invited to study discipline	Faculty of Ecology
List of competencies and learning-related outcomes that discipline provides	According to the requirements of the educational and professional program "Aquatic bioresources and aquaculture", students must acquire the ability to acquire the following competencies: – Integral Competence. The ability to solve complex specialized tasks and practical problems in the field of aquatic bioresources and aquaculture or in a learning process characterized by complexity and uncertainty of conditions, and involves the application of theories and methods of biology and applied sciences. – GC (general competence) 8. Knowledge and understanding of the subject area and understanding of professional activities. – GC 9. Ability to apply knowledge in practical situations. – SC (special competencies) 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. – SC 9. Ability to perceive new knowledge in the field of aquatic bioresources and aquaculture and integrate it with existing ones. The result of training in the discipline is the acquisition by students of such knowledge and skills: – Be able to equip nurseries and industrial marine farms, taking into account the influence of various factors on the reproduction and cultivation of mariculture objects. – Know the origin, distribution, biological characteristics, and lifestyle of mariculture objects for successful cultivation, acclimatization, and introduction. – To know and understand how to organize mariculture farms on an ecological basis of resource-saving technologies for the modern and further sustainable development of the industry.
Description of the discipline	

Preconditions necessary for the study of the discipline	The selective academic discipline "Fundamentals of Mariculture" is based on the knowledge gained in the process of studying the disciplines of fundamental and professional training: Zoology, General Ichthyology, and Special Ichthyology, Biological Fundamentals of Fisheries, Hydrobiology, Fish Feeding, etc.
The maximum number of students who can study simultaneously	Lectures - 50 students Practical - 25 students
Lesson plans	**Lectures** 1. Subject and tasks of mariculture. The development of mariculture in the world. The main objects of cultivation and cultivation in mariculture farms. 2. Cultivation of seaweed. 3. Cultivation of brown algae. 4. Cultivation of red algae on the example of porphyry, gracilaria. 5. Modern technologies for growing bivalve mollusks. 6. Arrangement of a marine farm for growing shellfish. 7. Cultivation of mollusks in farms of semi-cyclic type. 8. development of oyster cultivation in full-cycle farms. 9. Features of the cultivation of crustaceans 10. Worldwide experience in breeding and raising lobsters 11. World experience in breeding and growing crabs 12. Shrimp cultivation 13. Cultivation of flounders in seawater 14. Cultivation in seawater of mullets 15. Farming Atlantic Salmon and Pacific Salmon 16. Cultivation of sturgeons in seawater 17. Growing laurel and dorado. **Practical classes** 1. Cultivation and cultivation of seaweed on the example of Japanese saccharin. 2. Cultivation and cultivation of red algae on the example of porphyry. 3. Cultivation and use of marine green algae. 4. Methods for studying the fungal infection of algae 5. Methods and technical means of mussel cultivation. 6. Calculation of mussel condition indices 7. Schedule of work of the nursery for the reproduction of oysters. 8. Cultivation of commercial oysters Crassostrea Gigas. Oyster quality indices 9. Breeding and rearing of shrimp as promising objects of aquaculture. Biological features of the giant freshwater shrimp (Macrobrachium Rosenberg) 10. Technology of breeding and growing lobsters 11. Reproduction of king crab (Paralithodes camtschaticus) 12. Reproduction of the Japanese mitten crab (Eriocheir japonica) 13. Artificial reproduction of flounders 14. Cultivation of mullets in seawater

	15. Commercial cultivation of sturgeons in sea gardens and pools. 16. Commercial farming of Atlantic and Pacific salmon. 17. Technology of growing laurel, dorado.
Teaching language	Ukrainian