НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ ВОДНОГО ГОСПОДАРСТВА ТА ПРИРОДОКОРИСТУВАННЯ

Навчально-науковий інститут агроекології та землеустрою

Co-funded by the European Union

National University of Water and Environmental Engineering

05-03-48S (E)

СИЛАБУС **SYLLABUS**	Профілактика та лікування хвороб риб Prevention and treatment of fish diseases	
Шифр за ОП Code in Degree Programme	ОК 8	
Освітній рівень Level of Education	Магістерський (другий) Master's (second)	
Галузь знань Field of Knowledge	20	Аграрні науки та продовольство Agricultural Sciences and Food
Спеціальність Field of Study	207	Водні біоресурси та аквакультура Aquatic Bioresources and Aquaculture
Освітня програма Degree Programme	Охорона, відтворення та раціональне використання гідробіоресурсів Protection, reproduction and rational use of hydrobioresources	

RIVNE – 2024

The syllabus of the educational component "Prevention and treatment of fish diseases " for master's degree students of the educational program "Protection, reproduction and rational use of hydrobioresources", specialty 207 Aquatic bioresources and aquaculture. Rivne. NUWEE. 2024. 15p.

Educational Program (EP) on the university website:
http://ep3.nuwm.edu.ua/id/eprint/28749

Syllabus developer: *academic degree, academic title, and position*
Tatyana Poltavchenko, Ph.D., Associate Professor, Head of the Department of Water Bioresources.
Tatyana Solodka, Ph.D., Associate Professor

Syllabus was approved at the meeting of the Department of Water Bioresources
Protocol No. 12 dated 24.04. 2024

Head of the department: *Tatyana Poltavchenko, Ph.D., Associate Professor, Head of the Department of Water Bioresources.*

Syllabus was approved at the meeting of the Department of agrochemistry, soil science and agriculture named after S.T. Vozniuk

Protocol No. 13 dated 22.04. 2024

Head of the department of agrochemistry, soil science and agriculture named after S.T. Vozniuk:

Kolesnyk Tetyana Mykolaivna, candidate of science in science, associate professor, head of the department of agrochemistry, soil science and agriculture named after S.T. Vozniuk

Head (guarantor) of the EP: *Vasyl Sondak, Doctor of Biology Science, Professor of the Department of Water Bioresources*

Approved by the scientific and methodical quality council of NNIAZ
Protocol No. 16 dated 23.04.2024

Head of the Scientific and Methodological Council for the Quality of the Institute of Agroecology and Land Management (NNIAZ):
Alla Pryshchepa, Doctor of Agricultural Sciences, Professor, Director the Institute of Agroecology and Land Management

PROGRAM Prevention and treatment of fish diseases

ЗАГАЛЬНА ІНФОРМАЦІЯ	
Degree of higher education	*Master*
Educational program	Prevention and treatment of fish diseases

Specialty	*207 Aquatic Bioresources and Aquaculture*
Study year, semester	*indicate the 1 years and 2 semesters*
Number of credits	*4 ECTS credits*
Lectures:	*20 hours*
Practical /Laboratory classes:	*20 hours*
Independent work:	*the number of hours for each form of education is indicated (if available)*
Coursework:	
Form of education	*full-time,part-time*
Form of final control	*examination*
Language of teaching	*the state language*

INFORMATION ABOUT THE DEVELOPER(S)	
 Lecturer	Tatyana Poltavchenko, Ph.D., Associate Professor, Head of the Department of Water Bioresources.
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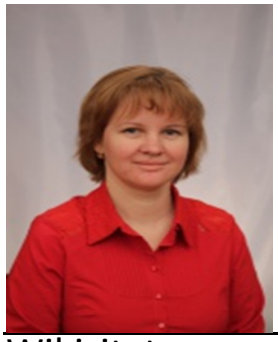
How to communicate	t.v.poltavchenko@nuwm.edu.ua https://exam.nuwm.edu.ua/course/view.php?id=854

Assistant of lecturer 	Tatyana Solodka, Ph.D., Associate Professor
Wikisitet	Солодка Тетяна Миколаївна
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INFORMATION ABOUT THE EDUCATIONAL COMPONENT

Purpose and tasks

The purpose of the course is to provide students with comprehensive theoretical and practical knowledge when processing educational material from general pathology, patterns of occurrence, course and manifestation of fish diseases, immunology, other knowledge and practical skills from general and special epizootology.

As a result of studying the discipline, the student should know:

- the basics of general pathology, epizootology, immunology and patterns of occurrence and spread of fish diseases;
- the basics of special epizootology, the main types of contagious and non-contagious fish diseases;
- typical pathological processes and immunological factors protecting the fish body from infections;
- general methods of diagnosing fish diseases;
- basic methods and methods of prevention and treatment of common fish diseases;
- the main methods and ways of improving fish stocks from infectious and non-infectious diseases.

According to the results of studying the course, the student should be able to:

- to use the acquired knowledge and practical skills in ichthyopathology and immunology of fish to ensure the epizootic well-being of the development of fishery activities;
- to organize and monitor the implementation of measures for the prevention and rehabilitation of fish farms from contagious and non-contagious fish diseases;
- to organize and create appropriate conditions for fishing activities to ensure the production of "environmentally friendly" robotic products.

A link to the placement of the educational component on the Moodle educational platform, on the platform of educational programs and their educational components

https://exam.nuwm.edu.ua/course/view.php?id=6124

Study prerequisites* (the place of the educational component in the structural and logical scheme)
It is preceded by the study of such courses as "World fisheries. Protection and reproduction of hydrobioresources", "Theory of fish population dynamics", Ichthyofauna of multipurpose reservoirs"
Competencies
ZK 3 Ability to abstract thinking, analysis and synthesis *ZK 4 Ability to make informed decisions* *ZK 5 Striving to preserve the natural environment* *ZK 8 Ability to apply knowledge in practical situations* *FC 7 The ability to carry out measures to protect aquatic biological resources and preserve the health of fish and prevent their mass diseases* *FK10 The ability to clearly and unambiguously convey one's own knowledge, conclusions and arguments on the problems of aquatic biological resources and aquaculture to specialists and non-specialists, in particular to persons who are studying* *FC 13 The ability to analyze the production and genetic features of rare and disappearing aboriginal fish, resistant to climate change, for the selection and reproduction of artificial conditions* *FC 14 Ability to calculate potential and actual fish productivity in the aquatic environment. The ability to identify water areas preserved in their natural state.*
Program learning outcomes (PLO). Learning outcomes (LO)*
PLO 4 Make effective decisions, take responsibility and work in critical conditions during the implementation of production, technological and scientific tasks of aquatic biological resources and aquaculture, analyze and integrate alternatives, assess risks and likely consequences *PLO 7 Develop, implement and apply effective technological processes of production of aquaculture products, ensure its quality* *PLO 14 Develop measures to prevent the spread of fish diseases and effectively apply modern treatment and prevention measures in aquaculture.* *PLO 16 Be able to develop, implement and apply measures to guarantee the safety of aquaculture food products in accordance with the norms of European legislation, including the identification and control of dangerous factors and critical points*
The structure and content of the educational component
The total number of hours allocated for studying the course is 120 hours. Of them: lectures - 20 hours, practical - 20 hours, independent work - 80 hours

Teaching methods and technologies	Lectures using the explanatory and illustrative method, multimedia presentations, handouts, tables. Methods of discussion, debate and presentations.
Teaching aids	Multimedia -, projection equipment, handouts, library and internet resources on Prevention and treatment of fish diseases, Google tables and Google forms
CONTENT MODULES, LECTURE TOPICS, PRACTICAL LESSONS	
Content module 1 Fishery meliorative measures in fisheries	
TOPIC	
Number of hours, study results, literature	**Description of the topic**
TOPIC 1. Introduction to the Discipline. Water - the Habitat for Fish Life.	
lectures - 2; ; practical - 2; independent work - 8 *PLO* 5; *PLO* 13; *PLO* 18. Literature: [1,4,10,19]	Introduction to the Discipline. Water is the primary environment for fish life. Water stands out as the most crucial factor among others in fish farming. Equipment, work regulations, and safety techniques in laboratories for fish research.
TOPIC 2. Sanitary and Hygienic Consequences of Water Eutrophication. Toxicant Groups, Routes of Toxic Substance Entry into Aquatic Environment.	
lectures - 2; ; practical - 2; independent work - 8 *PLO* 5; *PLO* 13; *PLO* 18. Literature: [1,2,3,5, 6,7,8, 19]	Anthropogenic eutrophication and water pollution are major processes leading to the degradation of rivers, reservoirs, lake systems, and deterioration of water quality. Although the main cause of both processes is waste from economic activities entering water bodies from catchments, each process has its own specifics. Characterization of water pollution sources.
TOPIC 3. Veterinary and Sanitary Examination of Fish and Fish Products. Veterinary-Sanitary Examination of Sick Fish.	

lectures - 2; ; practical - 2; independent work - 8 *PLO* 5; *PLO* 13; *PLO* 18. Literature: [1,2,3,4,5,6,7,9,19]	Fish and seafood play a significant role in addressing the issue of supplying the population with animal protein. Despite the relatively large reserves of fish raw materials in the World Ocean, the content of fish in the diets of the Ukrainian population is insufficient. According to physiological norms of nutrition, fish and fish products consumption should be around 18 kg per person per year, but in reality, it only amounts to 4-6 kg.
TOPIC 4. Veterinary-Sanitary Anti-Epizootic and Anti-Epidemic Health Measures in Fisheries.	
lectures - 2; ; practical - 2; independent work - 8 PLO 5; PLO 13; PLO 18. Literature: [1,3,4,6, 7,8,19]	The main source of infectious agents in invasive and infectious diseases is sick and convalescent fish, their excretions, and fish carcasses. In addition, there is a great danger of introducing pathogens of the disease into water bodies by certain fish species and other hydrobionts (feeding invertebrates), which themselves do not suffer from one or another disease (for example, herbivorous fish such as white amur, grass carp, pike, and some other species of fish do not suffer from swim bladder inflammation and aeromonosis (red fin), but being in contact with sick carp in unfavorable ponds, they can be carriers of infectious agents. When transporting such fish to healthy waters, there is a real danger of introducing dangerous disease agents along with them. Creating optimal zoohygienic conditions in ponds. Optimal zoohygienic conditions in ponds.
Content module 2 **Patterns of occurrence and spread of fish diseases, preventive measures, and disease elimination measures.**	
TOPIC 5. Concepts of Infection, Infectious Process, Infectious and Non-infectious Diseases. Sources of Infection, Mechanisms of Transmission, and Spread of Infectious Diseases in Fish.	

lectures - 2; ; practical - 2; independent work - 10 PLO 5; PLO 13; PLO 18. Literature: [1,2,3,4, 6,7,8, 19]	General etiology and characteristics of pathogens, forms of infection, course, and manifestation of diseases in fish. General characteristics of infectious sources, mechanisms, and pathways of transmission from infected to healthy organisms. Occurrence of non-infectious diseases in fish. Technique of parasitological fish dissection. Collection, fixation, and preservation of fish parasites.
TOPIC 6. Susceptibility to Infections and Immunity in Fish.	
lectures - 2; ; practical - 2; independent work - 10 PLO 5; PLO 13; PLO 18. Literature: [1,2,4,5, 6,7,10, 19]	Concept of immunity, its formation, and immunological defense factors protecting fish organisms from infections. Protective reactions of fish organisms to infections and viruses, non-infectious diseases. Specific and nonspecific factors contributing to the development of fish resistance to diseases. Indicators for establishing a diagnosis of infectious fish diseases.
TOPIC 7. Methods of Fish Disease Diagnosis. Prevention and Elimination Measures of Fish Diseases.	
lectures - 2; ; practical - 2; independent work - 10 PLO 5; PLO 13; PLO 18. Literature: [4,5,6, 9, 10, 19]	Concept of disease diagnosis. General characteristics of epizootic, clinical, and laboratory diagnostic methods. Pond treatment method. Comprehensive method of fisheries rehabilitation. Diagnosis of infectious diseases.
TOPIC 8. General Characteristics of Viral Fish Diseases. Spring Viremia of Carp. Viral Hemorrhagic Septicemia. Infectious Hematopoietic Necrosis.	
lectures - 2; ; practical - 2; independent work - 10 PLO 5; PLO 13; PLO 18. Literature: [4,5,6,7, 8, 19]	General characteristics of viral fish infections group. Distribution, clinical signs, and pathological changes, prevention, and control measures against viral fish diseases. Diagnosis of protozoal diseases and crustacean diseases.
TOPIC 9. General Characteristics of Bacterial Fish Diseases. Aeromoniasis of Carp. Furunculosis (Aeromoniasis) of Salmonids. Pseudomonoses of Cyprinids. Myxobacteriosis. Vibriosis.	

lectures - 2; ; practical - 2; independent work - 10 PLO 5; PLO 13; PLO 18. Literature: [1,2,3, 10, 19]	General characteristics of bacterial fish infections group. Distribution, clinical and pathological signs of diseases, prevention, and elimination measures against diseases. Characteristics, etiology, distribution, clinical and pathological signs of diseases, prevention, and elimination measures of diseases. Methods of therapeutic-prophylactic treatments of fish. General methods of disease diagnosis, fish anatomy, and dissection.
TOPIC 10. **General Characteristics of Invasive Fish Diseases. General Characteristics of Non-infectious Fish Diseases.**	
lectures - 2; ; practical - 2; independent work - 10 PLO 5; PLO 13; PLO 18. Literature: [1,2,3, 10, 19]	General characteristics of invasive fish diseases. Protozoal diseases, helminthiases, crustacean diseases. Prevention and elimination measures against invasions. General characteristics of non-infectious fish diseases. Causes of occurrence, clinical and pathological signs, prevention, and elimination measures against diseases. Diagnosis of diseases caused by adverse environmental factors.

Forms and methods of education
The forms of theoretical education are lectures and practical and laboratory classes. Lectures using the explanatory and illustrative method, multimedia presentations, handouts, tables. Discussion, debate and presentation methods are used in practical classes. It is proposed to discuss problematic issues, for example, "Viral diseases of fish and measures of prevention and elimination", "Bacterial diseases of fish and measures of prevention and elimination", etc. To receive additional points, students have the opportunity to make a public speech with a presentation on a chosen topic within the educational component, to prepare and write an article under the guidance of a scientific supervisor in the student scientific bulletin of the National University of the Russian Academy of Sciences. The form of professional training is practical and laboratory classes, which are held in a specialized auditorium of the Department of Aquatic Bioresources equipped with stands and posters. A research method is used when students perform individual tasks. Involvement of students in scientific research work of the department, preparation of scientific articles and reports at scientific conferences and round tables.
Tools, equipment, software

During lectures and practical classes, a multimedia projector, a laptop, library and Internet funds on chordate zoology, fish anatomy and physiology, Google tables and Google forms (corporate subscription), study guides, monographs, scientific and popular articles are used. Students use methodical material prepared by the teacher: presentations, lecture notes, methodical instructions for practical classes.
The procedure for evaluating program learning outcomes/learning outcomes

- Forms of control in the section of the course include an oral survey, checking reports on the performance of practical work, computer testing.
- The educational component ends with a test/examination, points are added up for the performance of practical/laboratory and independent work (60 points in total).
- The results of passing two modular tests (20 + 20 = 40 points) during the semester can be counted as a credit if they are passed on time and successfully.
- Total maximum 100 points. For successful passing, the amount for the current control must not exceed 60 points.
- Exam 40 points.
- Module controls take place in the form of testing on the university's MOODLE educational platform.
- Intermediate (current) control is carried out on the educational platform of NUVHP in the form of two modules.
- The current modular control No. 1 consists of 24 random test tasks of three levels of difficulty: level 1 (choose one correct answer among the proposed ones): 20 x 0.5 points = 10 points; 2nd level (choose one, two or more correct answers among the proposed ones, establish an incorrect statement among the proposed ones): 3 x 2.0 points = 6 points; Level 3 (find out the name and function of the compound from the image, the task is to calculate the protein content in the body of a migratory species of fish before and after spawning): 1 x 4.0 points = 4 points.
- The current modular control No. 2 consists of 24 random test tasks of three levels of difficulty: level 1 (choose one correct answer among the proposed ones): 20 x 0.5 points = 10 points; Level 2 (one, two or more correct answers among the proposed ones, establish an incorrect statement among the proposed ones, establish the correspondence, the task on the duration of incubation of eggs): 3 x 2.0 points = 6 points; Level 3 (find the incorrect statement among the proposed ones): 1 x 4.0 points = 4 points.
- Provisions on semester current and final control of educational achievements of higher education applicants http://ep3.nuwm.edu.ua/15311/.
- Students can get additional points for the following activities:
- - preparation of a presentation, a short message on the subject of the course - 1 point;
- - speaking at a scientific conference on the topic of the discipline, publishing theses or a scientific article - 3 points;
- - participation in the All-Ukrainian Student Olympiad - 3 points;
- - participation in the All-Ukrainian competition of student scientific works - 3 points.

Recommended literature (main, secondary)

Main Literature:

1. Vovk N.I., Bozhik V.Y. Ichthyopathology. Kyiv, 2014. 308 p.
2. Stybel V.V., Berezovsky A.V., Dovgy Yu.Yu. et al. Invasive Fish Diseases. Zhytomyr, 2016. 142 p.
3. Zazharska N.M., Kutsak R.S., Biben I.A. et al. Veterinary-Sanitary Expertise. Dnipro, 2017. 193 p.
4. Sanitation and Hygiene in Fisheries. Laboratory Workshop. TV Poltavchenko, NM Bohatko, IO Parfenyuk - Rivne: NUWGP, 2016. 120 p.
5. Snizhko S.I. Assessment and Prediction of Natural Water Quality. Kyiv: "Nika-Center", 2001. 262 p.
6. Mykityuk P.V. Fish Processing Technology. Kyiv: Veterinary Medicine Library, 1999. 127 p.
7. Veterinary-Sanitary Expertise with Fundamentals of Technology and Standardization of Livestock Products / O.M. Yakubchak, V.I. Khomenko, S.D. Melnychuk et al.; Ed. O.M. Yakubchak, V.I. Khomenko. Kyiv: LLC "Bioprom", 2005. 800 p.
8. Davidov O.M. Veterinary-Sanitary Control in Fisheries: Manual. O.M. Davidov, Yu.D.Termykhanov. Kyiv: Inko Firm, 2004. 144 p.
9. Kovbasko V.M. Veterinary-Sanitary Expertise with Fundamentals of Technology and Standardization of Livestock Products: Textbook: In 2 volumes. Kyiv: Inko Firm, 2006. Vol.2. 536 p.

Additional Literature:

10. Mykityuk P.V., Dzhmil V.I., Bukalova N.V. et al. Workbook on Biology, Pathology, and Veterinary Sanitary Expertise of Freshwater Fish. Bila Tserkva, 2009. 160 p.
11. Law of Ukraine "On Veterinary Medicine". Law of Ukraine on the Responsibility of Enterprises, Institutions, and Organizations for Violations of Veterinary Medicine Legislation (official publication) – Kyiv, 04.02.2021 – 40 p.
12. Mykityuk P.V., Yakubchak O.M. Diseases of Freshwater Fish. Kyiv: Urozhay, 1992. 187 p.
13. Sekretaryuk K.V., Bozhik V.Y., Stryzhak O.I. Major Diseases of Pond Fish. Lviv: VPM, 2001. 110 p.

Information resources on the Internet

14. Institute of Fisheries of NAAS https://if.org.ua/index.php/uk/.
15. Scientific electronic library of periodicals of the National Academy of Sciences of Ukraine. Browse by topic [Electronic resource]. – Access mode: http://dspace.nbuv.gov.ua/handle/123456789/236.
16. "LEONORM" NIC website [Electronic resource]. – Access mode: http://www.leonorm.com.ua/Default.php?
Page=stlist&ObjId=939&CatId=1;
17. Website of the journal "Fisheries of Ukraine". [Electronic resource]. – Access mode: http://fsu.ua/index.php/uk/arkhiv-zhurnalu.
18. Fishing News http://www.fishnews.ru

Methodological Support:

19. 05-03-117M Poltavchenko, T.V. (2024) Methodological Guidelines for Practical and Independent Work in the Educational Discipline "Prevention and Treatment of Fish Diseases" for Higher Education Students of the Second (Master's) Level in the Educational-Professional Program "Protection, Reproduction, and Rational Use of Hydrobiological Resources" of the Specialty 207 "Aquatic Bioresources and Aquaculture" in Full-time and Part-time Forms of Study https://ep3.nuwm.edu.ua/29878/

Combination of teaching and research* (if needed)

- During their studies, students have the opportunity to participate in departmental scientific topics, research on the problems of fisheries and aquaculture, with subsequent presentation of results at All-Ukrainian contests of student scientific works, competitions, scientific publications, in particular in the Bulletin of the NUVHP, round tables and conferences at the university, regional and all-Ukrainian levels .
- - You can familiarize yourself with the requirements for participation and submission of works on the page of the sector of students' scientific work https://nuwm.edu.ua/naukova-dijaljnistj/stud-science, and on the announcements page https://nuwm.edu.ua/university/ads /nov202009041041.
- - Graduates of higher education are involved in the implementation of scientific research topics in the process of working with fishery products, standards, orders, the legal framework, to obtain individual initial data for the performance of practical/laboratory work, as well as in the case of choosing the topic of the graduation qualification work, or including it the content of individual sections, according to the subject of the course - Zoology of invertebrates and chordates.
- – In the educational process, the received individual and collective scientific achievements of the lecturer, which are relevant to the content of the educational component, are used:
- – 1) T.V. Poltavchenko; Budnik Z.M., Stetsyuk L.M., Antonyuk R.A. Ecological aspects of the distribution of trematodes in the ichthyofauna of the Mlyniv Reservoir. // Bulletin of the NUVHP Series "Agricultural Sciences" 2021. Issue 2 (94). P. 14-25;
- – 2) Grokhovska Y.R., Parfeniuk I.O., Konontsev S.V, Poltavchenko T.V. Analysis of surface water quality and crustacean diseases in fish (the Ustya River basin, Ukraine). Ukrainian Journal of Ecology. 2021. Vol. 11(1), R. 94-102. DOI 10.15421/2021_14.;
- – 3) T.V. Poltavchenko; I. M. Matviychuk. The modern state of the fish industry of Ukraine / I. M. Matviychuk // Student's Bulletin of the NUVHP. – Rivne: NUVHP, 2021. – Issue 1(15). - pp. 28-30.

TEACHING AND LEARNING POLICIES

List of social, "soft" skills (soft skills)

Prevention and treatment of fish diseases is a mandatory discipline in the system of training specialists in aquatic bioresources and aquaculture. It provides primary knowledge about the main infections, invasions, non-contagious diseases and parasites of fish in natural and artificial conditions, pathogenicity of pathogens, their spread and prevention and fight against diseases.
The goal of the discipline is the formation of the theoretical and practical basis necessary for the successful mastering of fish farming processes and obtaining high-quality fish products, familiarization with the basics of general pathology, parasitology and the mechanisms of body protection, the main diseases of fish, their nature, fish water-melioration, veterinary-sanitary and medical preventive measures.
This discipline is a necessary basis for the further study and development of scientific principles in breeding, polyculture, fish selection, in the prevention and treatment of parasitic diseases of fish.
The task of Prevention and treatment of fish diseases is to study: general concepts, classification of fish diseases; typical pathological processes and compensatory and adaptive reactions in fish; infectious, invasive and non-infectious fish diseases, their etiology, spread and diagnostic methods; the main components of the complex of preventive and veterinary-sanitary measures, their organization and implementation during fish farming; basic disinfectant, antibacterial, anti-parasitic and other drugs used for the treatment and prevention of fish in aquaculture; basics of documentation. The student's independent work is the main means of mastering the educational material in the time free from compulsory academic disciplines. During independent work, students consolidate additional knowledge acquired during lectures and practical classes. Independent work involves mastering the given practical works, writing an essay and a descriptive individual scientific research task.

Deadlines and rescheduling

Announcements regarding deadlines for submission of parts of an academic discipline are published on the page of this discipline on the MOODLE platform according to the calendar: https://exam.nuwm.edu.ua/calendar/view.php?view=month&course=854.

The deadlines for passing intermediate control modules and the final control (exam) are established in accordance with the Regulation on semester current and final control of educational achievements of higher education applicants. Link: http://ep3.nuwm.edu.ua/15311/.

Resubmission of modules takes place in accordance with the rules of the NNCNO, announcement on resubmission https://exam.nuwm.edu.ua/mod/forum/view.php?id=1

Rearranging modules takes place with the permission of the dean's office if there are good reasons (for example, sick leave).
Liquidation of academic debt and re-examination of the discipline in accordance with the "Procedure for Liquidation of Academic Debts at NUVHP". Link: http://ep3.nuwm.edu.ua/4273/

If the student disagrees with the assessment results, on the day of the exam, an appeal is submitted to the NNIAZ dean's office, where the essence of the issue is explained in a reasoned manner. Attached to the complaint is a printed version of all the answers of this student during the attempt. The director of the NNI convenes an appeal commission to consider a complaint to which a student and a representative of the NNCNO are invited, in accordance with the Procedure for appeals by applicants of higher education and other persons studying at the National University of Water Management and Nature Management http://ep3.nuwm.edu.ua/15467/.

Non-formal and informal education (if needed)

Students have the right to re-enroll study results acquired in non-formal and informal education in accordance with the relevant provision http://ep3.nuwm.edu.ua/18660/.
In particular, an online course has been open on the Prometheus platform "Specialization Biology Everywhere", which is dedicated to ecology: dynamics and preservation of ecosystems can be counted as part of the educational component (in the case of obtaining a certificate). Link: https://ru.coursera.org/learn/ecology-conservation

Rules of academic integrity

The principles of academic integrity on the website of the NUVHP "Education Quality Department": https://nuwm.edu.ua/sp/akademichna-dobrochesnistj, in particular, the Student Honor Code: http://ep3.nuwm.edu.ua/4917/. It is forbidden to write down and discuss issues with fellow students during all control measures, modular and final controls. In the case of detection of such violations, the student is deprived of the right to further perform the tasks and this leads to a decrease in the overall grade or failure to enroll the entire course and re-study of the educational component.

- Information on academic integrity, plagiarism, student honor code, etc. is provided on the website of the National Agency for Quality Assurance of Higher Education https://naqa.gov.ua/; NUWHP on the "Quality of Education" page: http://nuwm.edu.ua/sp/akademichna-dobrochesnistj.

Attendance requirements

- Missing classes without valid reasons must be worked out.
- Schedules of consultations, during which you can work out passes, are published on the website of the Department of Water Bioresources: https://nuwm.edu.ua/nni-az/kaf-vb/hrafik-konsultatsii. In the presence of a certified medical certificate, the student is exempted from completing missed practical classes. Missed lectures are processed by students independently on the educational platform on the page of the educational component. https://exam.nuwm.edu.ua/course/view.php?id=854
- Students can use mobile phones and laptops in classes exclusively for searching and processing information about the educational component and calculating tasks, except for the time of conducting control measures.

Автор
Завідувач кафедри водних біоресурсів — Тетяна ПОЛТАВЧЕНКО

Затверджено

Проректор з науково-педагогічної та навчальної роботи — Валерій СОРОКА

документ підписаний КЕП
Номер документа СИЛ №664
Підписувач Сорока Валерій Степанович
Підписувач (дані КЕП):
Сертифікат 58E2D9E7F900307B04000000807E2D0054327D00