Ministry of Agriculture of the Russian Federation
Federal State Budgetary Educational Institution
of Higher Education
"St. Petersburg State University of Veterinary Medicine"

APPROVED BY
Vice-Rector for Educational
Work and Youth Policy
_____ Sukhinin A.A.
May 6, 2024

**Department of feeding and breeding animals**

# EDUCATIONAL WORK PROGRAM

**for the discipline**

# " MODERN TECHNOLOGIES OF INDUSTRIAL ANIMAL HUSBANDRY"

**The level of higher education**
**SPECIALIST COURSE**

**Specialty 36.05.01 Veterinary Medicine**
**Full-time education**
Education starts in 2024

Reviewed and adopted
at the meeting of the department
on May 2, 2024.
Protocol No. 9

Head of the Department
of Veterinary and Sanitary Expertise,
Candidate of Veterinary Medicine, Associate Professor
_____ Suyazova I.V.

Saint Petersburg
2024

## 1. GOALS AND OBJECTIVES OF DISCIPLINE

1. The main goal of teaching the discipline is a comprehensive knowledge of modern technologies for the production of livestock products.

2. The main objectives of the discipline are to familiarize future specialists with modern technologies used in the production of livestock and poultry products.

## 2. THE LIST OF THE PLANNED RESULTS OF THE DISCIPLINE (MODULE), CORRELATED WITH THE PLANNED RESULTS OF THE REALISED EDUCATIONAL PROGRAM

As a result of mastering the discipline, the student prepares for the following types of activities, in accordance with the educational standard of Federal State Educational Standard of Higher Education 36.05.01 "Veterinary Medicine".

Types of professional activities:

Area of professional activity:

13 Agriculture

Types of professional activity tasks:

• Expert control;

**Student competencies formed as a result of mastering the discipline**

Studying the discipline should form the following competencies:

**a) professional and general professional competencies (PC)**

PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures

PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases

PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures

PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises

## 3. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE MPEP

Discipline B1.V.14 "Modern technologies of industrial animal husbandry" is a discipline part formed by participants in educational relations of the federal state educational standard of higher education in the specialty 36.05.01 "Veterinary Medicine" (specialty level).

Mastered in the 4th semester of full-time study.

The student's initial (initial) knowledge, skills, general cultural and professional competencies necessary for studying the discipline are obtained by studying courses in mathematics, biophysics, organic and biological chemistry, anatomy, animal physiology, histology, veterinary genetics, cytology and embryology, zoology and ecology animals.

Discipline " Modern technologies of industrial animal husbandry" is fundamental for the study of the following disciplines: feeding, obstetrics and gynecology, animal hygiene. Knowledge of the discipline is important when studying clinical diagnostics, pathological physiology, pathological anatomy, veterinary and sanitary examination.

## 4. THE SCOPE OF DISCIPLINE AND TYPES OF ACADEMIC WORK

| Type of educational work | Total hours | Semester |
|---|---|---|
| | | 4 |
| **Classroom lessons (total)** | **52** | **52** |
| Including: | - | - |
| Lectures, including interactive forms | 18 | 18 |
| Practical exercises (PP), including interactive forms, including: | 34 | 34 |
| - practical training (PT) | 6 | 6 |
| **Independent work (total)** | **56** | **56** |
| Type of intermediate certification (test, exam) | **Test** | **Test** |
| **Total labor intensity**hours/credits | **108/3** | **108/3** |

## 5. CONTENT OF THE DISCIPLINE "MODERN TECHNOLOGIES OF INDUSTRIAL ANIMAL HUSBANDRY".

## 5.1.CONTENTS OF THE DISCIPLINE "MODERN TECHNOLOGIES OF INDUSTRIAL ANIMAL HUSBANDRY" FOR FULL-TIME STUDY

| NO. | Name | Formed competencies | Semester | Types of educational work, including independent work of students and labor intensity (in hours) | | | |
|---|---|---|---|---|---|---|---|
| | | | | L | PP | PT | IW |
| 1. | Industrial livestock farming technologies – basic concepts. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 1 | | 2 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **2.** | Dairy farming technologies.Modern technologies for the production and primary processing of milk. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 3 | | 8 |
| **3.** | Beef cattle breeding technologies. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 3 | 1 | 6 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **4.** | Modern technologies for raising young cattle. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 4 | 1 | 6 |
| **5.** | Technologies for pork production on an industrial basis. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 4 | 1 | 6 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **6.** | Modern technologies for industrial egg production. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 4 | 1 | 8 |
| **7.** | Modern technologies of meat industrial poultry farming. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 4 | 1 | 6 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **8.** | Technologies for the production of sheep and goat products | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 3 | | 6 |
| **9.** | Technologies of dairy and meat horse breeding. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | 4 | 2 | 2 | 1 | 6 |
| | **Total:** | | | **18** | **28** | **6** | **56** |

## 6. LIST OF EDUCATIONAL AND METHODOLOGICAL SUPPORT FOR INDEPENDENT WORK OF STUDENTS

### Literature for independent work

1. Breeding farm animals with the basics of private zootechnics: textbook / Zhigachev Anatoly Ivanovich, Ukolov Petr Ivanovich, Ville Andrey Vilgelmovich. - Moscow: KolosS, 2009. - 408 p. : ill. - (Textbooks and teaching aids for students of higher educational institutions)..
2. Modern technologies in industrial pig farming: monograph / A. P. Grishkova, A. A. Arishin, N. A. Chalova, V. A. Grishkov. - Kemerovo: Kuzbass State Agricultural Academy, 2014. - 128 p. — ISBN 978-5-905818-27-1. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/92601 (access date: 27.04.2024). — Access mode: for authorization. users.
3. Kuznetsov, A. F. Industrial poultry farming: maintenance, breeding and feeding of farm poultry: textbook / A. F. Kuznetsov (ed.), G. S. Tyurin, V. G. Semenov, K. A. Rozhkov, I. V. Lunegova, G. S. Nikitin. - 1. - St. Petersburg: Quadro, 2022. - 392 p. — ISBN 978-5-906371-79-8. — Text: electronic // Electronic library system Elibrica: [website]. — URL: https://elibrica.com/bd65fd54-8870-4f8b-b071-350d04361cdf (access date: 27.04.2024). — Access mode: for authorized users. users
4. Cattle breeding: textbook / Kostomakhin Nikolai Mikhailovich. - 2nd ed., erased. - St. Petersburg: Lan, 2009. - 432 p. - (Textbooks for universities. Special literature)
5. Shtele, A. L. Egg poultry farming: a textbook / A. L. Shtele, A. K. Osmanyan, G. D. Afanasyev. - St. Petersburg: Lan, 2011. - 272 p. — ISBN 978-5-8114-1124-5. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/671 (date of access: 27.04.2024). — Access mode: for authorization. users.

## 7. LIST OF BASIC AND ADDITIONAL LITERATURE REQUIRED FOR MASTERING THE DISCIPLINE

**A) basic literature:**

1. Breeding farm animals with the basics of private zootechnics: textbook / Zhigachev Anatoly Ivanovich, Ukolov Petr Ivanovich, Ville Andrey Vilgelmovich. - Moscow: KolosS, 2009. - 408 p. : ill. - (Textbooks and teaching aids for students of higher educational institutions).
2. Workshop on breeding farm animals with the basics of private animal husbandry: a textbook for universities / A. I. Zhigachev, P. I. Ukolov, O. G. Sharaskina. - 2nd ed., revised. and additional - St. Petersburg: Quadro, 2022. - 336 p. – URL:https://elibrica.com/db6b6872-526e-492f-93f4-66ff140d26e1. Date of access: 27.04.2024).

**B) additional:**

1. Bessarabov, B.F. Technology for the production of eggs and poultry meat on an industrial basis: a textbook / B.F. Bessarabov, A.A. Krykanov, N.P. Mogilda. - St. Petersburg: Lan, 2012. - 352 p. — ISBN 978-5-8114-1328-7. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/4313 (access date: 27.04.2024). — Access mode: for authorization. users.
2. Modern technologies for pork production: textbook / V. S. Buyarov, O. A. Mikhailova, A. V. Buyarov, V. V. Krais; edited by V. S. Buyarov. — Orel: OrelGAU, 2014. — 184 p. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/71454 (access date: 27.04.2024). — Access mode: for authorization. users..

3. Modern technologies in industrial pig farming: monograph / A. P. Grishkova, A. A. Arishin, N. A. Chalova, V. A. Grishkov. - Kemerovo: Kuzbass State Agricultural Academy, 2014. - 128 p. — ISBN 978-5-905818-27-1. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/92601 (access date: 27.04.2024). — Access mode: for authorization. users.
4. Fundamentals of production technology and primary processing of livestock products: textbook / L. Yu. Kiselev, Yu. I. Zabudsky, A. P. Golikova, N. A. Fedoseeva; edited by L. Yu. Kiseleva. - St. Petersburg: Lan, 2012. - 448 p. — ISBN 978-5-8114-1364-5. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/4980 (date of access: 27.04.2024). — Access mode: for authorization. users.
5. Kuznetsov, A. F. Industrial poultry farming: maintenance, breeding and feeding of farm poultry: textbook / A. F. Kuznetsov (ed.), G. S. Tyurin, V. G. Semenov, K. A. Rozhkov, I. V. Lunegova, G. S. Nikitin. - 1. - St. Petersburg: Quadro, 2022. - 392 p. — ISBN 978-5-906371-79-8. — Text: electronic // Electronic library system Elibrica: [website]. — URL: https://elibrica.com/bd65fd54-8870-4f8b-b071-350d04361cdf (access date: 27.04.2024). — Access mode: for authorized users. users
6. Rodionov, G.V. Technology of milk and beef production: textbook / G.V. Rodionov, L.P. Tabakova, V.I. Ostroukhova. — St. Petersburg: Lan, 2019. — 304 p. — ISBN 978-5-8114-3480-0. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/115505 (access date: 27.04.2024). — Access mode: for authorization. users.
7. Shtele, A. L. Egg poultry farming: a textbook / A. L. Shtele, A. K. Osmanyan, G. D. Afanasyev. - St. Petersburg: Lan, 2011. - 272 p. — ISBN 978-5-8114-1124-5. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/671 (date of access: 27.04.2024). — Access mode: for authorization. users.

## 8. LIST OF RESOURCES OF THE INTERNET INFORMATION AND TELECOMMUNICATION NETWORK NECESSARY FOR MASTERING THE DISCIPLINE

**Electronic library systems:**

1. EB "SPbGUVM"
2. EBS "Publishing house "Lan"
3. Legal reference system "ConsultantPlus"
4. University information system "RUSSIA"
5. Full text database POLPRED.COM
6. Scientific electronic library ELIBRARY.RU
7. Russian Scientific Network
8. Electronic library system IQlib
9. WebofScience International Science Citation Index Database
10. Full-text interdisciplinary database for agricultural and environmental sciencesProQuest AGRICULTURAL AND ENVIRONMENTAL SCIENCE DATABASE
11. Electronic books from the publishing house "Prospekt Nauki"http://prospektnauki.ru/ebooks/
13. Collection "Agriculture. Veterinary" publishing house "Kvadro"EBS "Elibrica" publishing house "Kvadro" https://elibrica.com/

14.http://plinor.spb.ru/index.php?l=0&p=142– PLINOR website

## 9. METHODOLOGICAL INSTRUCTIONS FOR STUDENTS ON MASTERING THE DISCIPLINE

Methodological recommendations for students are a set of recommendations and explanations that allow the student to optimally organize the process of studying this discipline. The content of methodological recommendations, as a rule, may include:

- Tips for planning and organizing the time needed to study the discipline. Description of the sequence of student actions, or "scenario for studying the discipline."

The morning time is the most fruitful for educational work (from 8-14 o'clock), then the afternoon (from 16-19 o'clock) and the evening time (from 20-24 o'clock). The most difficult material is recommended to be studied at the beginning of each time interval after rest. After 1.5 hours of work, a break (10-15 minutes) is required; after 4 hours of work, the break should be 1 hour. Part of the scientific organization of labor is mastering the technique of mental work. Normally, a student should devote about 10 hours a day to studying (6 hours at the university, 4 hours at home).

- Recommendations for working on lecture material

When preparing for a lecture, the student is recommended to:

1) review the recordings of the previous lecture and recall previously studied material in memory;

2) it is useful to review the upcoming material of the future lecture;

3) if independent study of individual fragments of the topic of the last lecture is assigned, then it must be completed without delay;

4) prepare yourself psychologically for the lecture.

This work includes two main stages: taking notes of lectures and subsequent work on lecture material.

Note-taking means drawing up notes, i.e. a brief written statement of the content of something (oral presentation - speech, lecture, report, etc. or a written source - document, article, book, etc.).

The method of work when taking notes on oral presentations differs significantly from the method of work when taking notes from written sources.

By taking notes from written sources, the student has the opportunity to repeatedly read the desired passage of text, reflect on it, highlight the main thoughts of the author, briefly formulate them, and then write them down. If necessary, he can also note his attitude to this point of view. While listening to a lecture, the student must put off most of the above-mentioned work for another time, trying to use every minute to record the lecture, and not to comprehend it - there is no time left for this. Therefore, when taking notes from a lecture, it is recommended to separate fields on each page for subsequent entries in addition to the notes.

After recording a lecture or taking notes, you should not leave work on the lecture material until you begin preparing for the test. It is necessary to do as early as possible the work that accompanies note-taking of written sources and which was not possible to do while recording the lecture - read your notes, deciphering individual abbreviations, analyze the text, establish logical connections between its elements, in some cases show them graphically, highlight main thoughts, note issues that require additional processing, in particular, teacher consultation.

When working on the text of a lecture, the student needs to pay special attention to the problematic questions posed by the teacher when giving the lecture, as well as to his assignments and recommendations.

For each lecture, practical lesson and laboratory work, the number, topic, list of issues covered, volume in hours and links to recommended literature are provided. For classes

conducted in interactive forms, their organizational form must be indicated: computer simulation, business or role-playing game, analysis of a specific situation, etc.

- Recommendations for preparing for practical classes

Practical (seminar) classes constitute an important part of students' professional training. The main goal of conducting practical (seminar) classes is to develop analytical, creative thinking in students by acquiring practical skills. Practical classes are also conducted with the aim of deepening and consolidating the knowledge gained at lectures and in the process of independent work on regulatory documents, educational and scientific literature. When preparing for a practical lesson for students, it is necessary to study or repeat theoretical material on a given topic.

When preparing for a practical lesson, the student is recommended to adhere to the following algorithm;

1) get acquainted with the plan of the upcoming lesson;

2) study the literature sources that were recommended and familiarize yourself with the introductory comments to the relevant sections.

Methodological instructions for practical (seminar) classes in the discipline, along with the work program and schedule of the educational process, refer to methodological documents that determine the level of organization and quality of the educational process.

The content of practical (seminar) classes is recorded in the working curriculum of the disciplines in the sections "List of topics for practical (seminar) classes."

The most important component of any form of practical training is assignments. The basis of the assignment is an example, which is analyzed from the perspective of the theory developed in the lecture. As a rule, the main attention is paid to the formation of specific skills and abilities, which determines the content of students' activities - problem solving, laboratory work, clarification of the categories and concepts of science, which are a prerequisite for correct thinking and speech.

Practical (seminar) classes perform the following tasks:

- stimulate regular study of recommended literature, as well as attentive attention to the lecture course;
- consolidate the knowledge gained in the process of lecture training and independent work on literature;
- expand the scope of professionally significant knowledge, skills and abilities;
- allow you to check the correctness of previously acquired knowledge;
- instill skills of independent thinking and oral presentation;
- promote free use of terminology;
- provide the teacher with the opportunity to systematically monitor the level of students' independent work.

Methodological instructions for practical (seminar) classes in the discipline should be focused on modern business conditions, current regulatory documents, advanced technologies, on the latest achievements of science, technology and practice, on modern ideas about certain phenomena and the reality being studied.

• Recommendations for working with literature.

Working with literature is an important stage of a student's independent work in mastering a subject, contributing not only to consolidation of knowledge, but also to broadening his horizons, mental abilities, memory, ability to think, present and confirm his hypotheses and ideas. In addition, research skills necessary for future professional activities are developed.

When starting to study literature on a topic, it is necessary to make notes, extracts, and notes. It is imperative to take notes on the works of theorists, which allow one to comprehend the theoretical basis of the study. For the rest, you can limit yourself to extracts from studied sources. All extracts and quotations must have an exact "return address" (author, title of work, year of publication, page, etc.). It is advisable to write an abbreviated name of the question to which the extract or quotation relates. In addition, it is necessary to learn how to immediately

compile a card index of specialized literature and publications of sources, both proposed by the teacher and identified independently, as well as refer to bibliographic reference books, chronicles of journal articles, book chronicles, and abstract journals. In this case, publications of sources (articles, book titles, etc.) should be written on separate cards, which must be filled out in accordance with the rules of bibliographic description (surname, initials of the author, title of work. Place of publication, publisher, year of publication, number of pages, and for journals articles – journal name, year of publication, page numbers). On each card, it is advisable to record the thought of the author of the book or a fact from this book on only one specific issue. If the work, even in the same paragraph or phrase, contains further judgments or facts on another issue, then they should be written out on a separate card. The presentation should be concise, accurate, without subjective assessments. On the back of the card you can make your own notes about this book or article, its contents, structure, what sources it was written on, etc.

## 10. EDUCATIONAL WORK

As part of the implementation of the discipline, educational work is carried out to form a modern scientific worldview and a system of basic values, the formation and development of spiritual, moral, civil and patriotic values, a system of aesthetic and ethical knowledge and values, attitudes of tolerant consciousness in society, the formation in students of the need to work as the first vital necessity, the highest value and the main way to achieve success in life, to understand the social significance of your future profession.

## 11. LIST OF INFORMATION TECHNOLOGIES USED IN THE EDUCATIONAL PROCESS

### 11.1. Information Technology:

The educational process in the discipline provides for the use of information technologies:

- lecturing using slide presentations;

-interactive technologies (conducting lectures, dialogues, collective discussion of various approaches to solving a particular educational and professional problem

- interaction with students via email.

- joint work in the Electronic Information and Educational Environment of St. Petersburg State University of Mathematics and Mathematics:https://spbguvm.ru/academy/eios

### 11.2. Software

**List of licensed and freely distributed software, including domestically produced:**

| No. | Name of technical and computer training aids recommended by sections and topics of the program | License |
|---|---|---|
| 1 | MS PowerPoint | 67580828 |
| 2 | LibreOffice | free software |
| 3 | OS Alt Education 8 | AAO.0022.00 |
| 4 | ABIS "MARK-SQL" | 02102014155 |
| 5 | MS Windows 10 | 67580828 |
| 6 | System ConsultantPlus | 503/KL |
| 7 | Android OS | free software |

## 12. MATERIAL AND TECHNICAL BASE REQUIRED FOR THE IMPLEMENTATION OF THE EDUCATIONAL PROCESS IN THE DISCIPLINE

| Name of the discipline (module), practice in accordance with the curriculum | Name of special premises and premises for independent work | Equipping special rooms and rooms for independent work |
|---|---|---|
| Modern technologies of industrial animal husbandry | 335 (196084, St. Petersburg, Chernigovskaya str., building 5) Classroom for conducting seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification | *Specialized furniture:*desks, chairs, stools, blackboard. |
| | 362 (196084, St. Petersburg, Chernigovskaya str., building 5) Classroom for conducting seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification | *Specialized furniture:*desks, chairs, stools, blackboard. |
| | 363 (196084, St. Petersburg, Chernigovskaya str., building 5) Classroom for conducting seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification | *Specialized furniture:*desks, chairs, stools, blackboard. *Technical training aids:*video projector, screen. |
| | 206 Large reading room (196084, St. Petersburg, Chernigovskaya str., building 5) Room for independent work | *Specialized furniture*: tables, chairs *Technical training aids:*computers with an Internet connection and access to the electronic information and educational environment |
| | 214 Small reading room (196084, St. Petersburg, Chernigovskaya str., building 5) Room for independent work | *Specialized furniture:*tables, chairs *Technical training aids:*computers with an Internet connection and access to the electronic information and educational environment |
| | 324 Department of Information Technologies (196084, St. Petersburg, Chernigovskaya str., building 5) Room for storage and preventive maintenance of educational equipment | *Specialized furniture:*tables, chairs, special equipment, materials and spare parts for preventive maintenance of educational equipment |
| | Box No. 3 Carpentry workshop (196084, St. Petersburg, Chernigovskaya str., building 5) Room for storage and preventive maintenance of educational equipment | *Specialized furniture:*tables, chairs, special equipment, materials for preventive maintenance of specialized furniture |

**The work program was compiled by:**
Candidate of Biological Sciences, Associate Professor
_____ P.I. Ukolov

Candidate of Biological Sciences, Associate Professor
_____ Yu.V. Mukiy

Annex 1

Ministry of Agriculture of the Russian Federation
Federal State Budgetary Educational Institution
of higher education
"Saint Petersburg State University of Veterinary Medicine"

Department of Animal Feeding and Breeding

# FUND OF ASSESMENT TOOLS
for the discipline
# "MODERN TECHNOLOGIES OF INDUSTRIAL ANIMAL HUSBANDRY"

Level of higher education
SPECIALIST COURSE

Specialty 36.05.01 Veterinary medicine
Full-time education

Education starts in 2024

Saint Petersburg
2024

## 1. PASSPORT OF THE ASSESSMENT FUND

**Table 1**

| No. | Molded competencies | Controlled sections (topics) disciplines | Evaluation tool |
|---|---|---|---|
| 1. | PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures<br>PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases<br>PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures<br>PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | Industrial cattle breeding technologies | Colloquium |
| 2. | | Industrial pig farming technologies | Colloquium |
| 3. | | Industrial poultry farming technologies | Colloquium |
| 4. | | Sheep and goat farming technologies | Colloquium |
| 5. | | Technologies for productive horse breeding | Colloquium |

**Approximate list of assessment tools**

**table 2**

| No. | Name evaluation tool | Brief description of the evaluation tool | Presentation of the assessment tool in the fund |
|---|---|---|---|
| 1. | Colloquium | A means of monitoring the assimilation of educational material of a topic, section or sections of a discipline, organized as a training session in the form of an interview between a teacher and students | Questions on topics/sections of the discipline |

## 3. INDICATORS AND CRITERIA FOR ASSESSING COMPETENCIES AT VARIOUS STAGES OF THEIR FORMATION, DESCRIPTION OF ASSESSMENT SCALES

| Planned results of mastering the competency | Mastery level | | | | Evaluation tool |
|---|---|---|---|---|---|
| | unsatisfactory | satisfactorily | Fine | Great | |
| PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures | | | | | |
| PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases | Knowledge level below minimum requirements, had the place is rude errors | Minimum acceptable knowledge level, a lot was allowed minor mistakes. | Level of knowledge in volume, appropriate program preparation, admitted a few rough ones errors | Level of knowledge in volume, appropriate program preparation, without errors. | Colloquium, |
| PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures | When deciding standard tasks Not basic skills demonstrated, there were rough errors | The main skills, solved typical tasks with not rude mistakes, all completed tasks, but not in in full | All the main ones are demonstrated skills, all solved main tasks with not rude mistakes, all completed assignments in full volume, but some with shortcomings | All the main ones are demonstrated skills, all solved main tasks with separate insignificant shortcomings, all completed assignments in full volume | Colloquium |

| | | | | | |
|---|---|---|---|---|---|
| PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises | When deciding standard tasks Not demonstrated basic skills there were rough errors | Available minimum set skills for solutions standard tasks with some shortcomings | Basic skills demonstrated when deciding standard tasks with some shortcomings | Demonstrated skills in decision non-standard tasks without errors and shortcomings | Colloquium |

## 4. LIST OF CHECK TASKS AND OTHER MATERIALS REQUIRED FOR THE ASSESSMENT OF KNOWLEDGE, ABILITIES, SKILLS AND ACTIVITY EXPERIENCE

### 4.1 Typical tasks for ongoing progress monitoring

#### 4.1.1. Questions for the colloquium

**Competency assessment questions:** PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures

PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases

PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures

PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises

**For the section "Industrial cattle breeding technologies":**

1. Key indicators for recording cows' milk productivity
2. Udder shapes and their relationship with productivity and resistance to mastitis.
3. Characteristics of the main dairy breeds, methods for assessing the breeding qualities of bulls.
4. Characteristics of the main meat breeds, methods for assessing the breeding qualities of bulls.
5. By what criteria are cows selected for resistance to stress and mastitis?
6. Features of the organization of breeding work and large-scale selection in cattle breeding.
7. Selection of dairy cattle for breeding purposes.
8. Organization and technology of targeted rearing of young cattle.
9. Raising and testing sire bulls based on their own productivity.
10. Raising replacement heifers and heifers
11. Features of closed and open production.
12. The principle of forming production groups.
13. Features of the flow-shop milk production system
14. Cattle housing systems. Their advantages and disadvantages.
15. Cattle feeding systems. Their advantages and disadvantages.
16. Cattle milking systems. Their advantages and disadvantages.
17. Cattle manure removal systems. Their advantages and disadvantages.
18. Feedlots and their features.
19. Technologies for cattle fattening.
20. Technologies for milk production on an industrial basis.

**In the section "Industrial pig farming technologies":**

1. Planning herd reproduction in pig farming.
2. Basics of breeding work in pig farming. Signs of selection of pigs for breeding purposes.
3. Features of flow-shop technology for pork production.
4. Organization of interbreeding and hybridization of pork production.
5. Basic feeding systems.
6. Mechanism and automation of microclimate parameters.
7. Manure removal and storage.
8. How and when disinfection is carried out in technological premises.
9. Design capacity for the production of marketable pork.

**In the section "Industrial poultry farming technologies"**

1. Characteristics of the main crosses for the production of commercial eggs and poultry meat
2. Features of closed and open production.
3. Poultry housing systems
4. Meat poultry housing systems
5. Feeding and manure removal systems in poultry houses.
6. Organization of slaughter and cutting of poultry
7. Features of incubation and group formation in breeding and commercial poultry farming.
8. The main breeds and crosses of geese, ducks, turkeys, quails.

**For the section "Technologies for industrial sheep and goat breeding"**:

1. Reproduction of the herd and rearing of young sheep
2. Reproduction of the herd and rearing of young goats
3. Sheep productivity accounting and evaluation methods.
4. Goat productivity methods of accounting and assessment.
5. Characteristics of promising dairy and meat breeds of goats and sheep.
6. Basics of the formation of main production groups.
7. Principles of formation of a breeding herd.
8. What breeds are bred to produce sheep.
9. What are the main parameters used to evaluate the quality of smushki?
10. Organization of sheep shearing.
11. Features of sheep milk production and its use.
12. Basics of staffing production groups at a dairy complex.
13. How is goat milking organized at the complex?
14. Characteristics of advanced goat milk production complexes.
15. Promising breeds in industrial dairy goat breeding.

**For the section "Commercial horse breeding technologies"**:

1. Horse breeding technologies in modern Russia.
2. Peculiarities of mare's milk production.
3. Features of horse fattening technology.
4. Organization of herd horse breeding.
5. Technologies for the production of mare's milk.

6. Features of kumys production.
7. Organization of feeding and fattening of young horses.
8. Characteristics of horse meat products.
9. Modern mechanization and automation systems in productive horse breeding.
10. Technologies for raising young animals of various directions of productivity.

## 4.2. Typical tasks for intermediate certification

### 4.2.1. Questions for testing

**Formed competence:** PC-12. Organization of the preventive clinical studies of animals, control of the veterinary and sanitary conditions and microclimate of livestock premises in accordance with the plan of antiepizootic measures, plan of the prevention of non-contagious animal diseases. plan of veterinary and sanitary measures

PC-12 ID-2 To be able to assess the impact of animal welfare and feeding conditions on health parameters as part of the implementation of action plans for the prevention of animal diseases

PC-12 ID-4 To know the recommended forms of the plan of antiepizootic measures, the plan of prevention of non-contagiouse animal diseases, the plan of veterinary and sanitary measures

PC-12 ID-6 To know the normative indicators of microclimate parameters in livestock premises

1. Routing.
2. Main production groups of the dairy complex.
3. Cow milking system and their brief characteristics.
4. How is the system for monitoring individual health and productivity indicators of cows organized and presented?
5. What are the features of a voluntary milking system?
6. Planned periods of stay of cows during dry, new calving and other periods
7. Characteristics of the cold method of raising young cattle.
8. Organization and conduct of medical examinations for free-stall, box housing.
9. How is milking equipment disinfected?
10. How is feeding and its general control carried out in different production groups (using examples)?
11. Give an explanation of the following concepts: feeding table, conveyor, mobile dispenser.
12. What modern technologies involve the use of deep, permanent litter?
13. Basic systems of industrial beef cattle breeding.
14. How feeding and watering are organized in open feedlots.
15. Technologies for processing beef cattle products.
16. Technologies for processing dairy products.
17. List and give a brief description of the main production groups of poultry farms with a closed reproduction cycle.
18. What is a brooder and its main purpose?
19. Give the decoding and characteristics of KBN-3, KBP-6
20. How are broilers fed and watered?

21. How is the basic zoohygienic parameters of the microclimate in poultry houses controlled?
22. Primary control, sorting and storage of eggs
23. Egg marking.
24. What drinking bowls are used in CBN? Their advantages and disadvantages.
25. Basic technological terms for fattening broilers and design delivery weight.
16. How and where veterinary monitoring of the health status and signs of disease in birds is carried out.
17. Fundamentals of the formation of main production groups in sheep breeding.
18. Principles of forming a breeding herd of sheep.
19. What breeds are bred to produce smushkas?
20. What are the main parameters used to evaluate the quality of smushki?
21. What is a merlushka, a strap?
22. How are sheep sheared?
23. What breeds of sheep are used to produce sheep milk?
24. Basics of staffing production groups at the dairy complex
25. How is goat milking organized at the complex?
26. Productivity indicators in advanced dairy goat complexes?
27. Promising breeds of goats for industrial dairy production?
26. Features of organizing a commercial farm for fattening horses for meat.
27. Features of organizing a koumiss farm.
28. Technologies for keeping fattened young horses.
29. Features of organizing milking of mares.
30. Kumis production technology.
31. Methods for assessing productive qualities in productive horse breeding.
32. Bacon pig farming - features, technologies.
33. Features of hybridization in pig farming.
34. Features of the organization of commercial pig-breeding complexes.
35. Technologies for raising young pigs.
36. Slaughter and assessment of post-mortem qualities of pigs.
37. Methods for assessing the productive qualities of pigs (lifetime and after slaughter).
38. Technologies for processing pig products.

## 5. METHODOLOGICAL MATERIALS DETERMINING PROCEDURES FOR ASSESSING KNOWLEDGE, ABILITIES AND SKILLS AND ACTIVITY EXPERIENCE CHARACTERIZING THE STAGES OF COMPETENCY FORMATION

Criteria for assessing students' knowledge during the colloquium:

- **Mark "excellent"**- the student clearly expresses his point of view on the issues under consideration, giving relevant examples.
- **Mark "good"**- the student makes some errors in the answer
- **Mark "satisfactory"**- the student discovers gaps in knowledge of the basic educational and regulatory material.

• **Mark "unsatisfactory"**- the student discovers significant gaps in knowledge of the basic principles of the discipline, and the inability, with the help of the teacher, to obtain the correct solution to a specific practical problem.

Knowledge criteria for the test:

• **Grade "passed"**must meet the parameters of any of the positive ratings ("excellent", "good", "satisfactory").

• **Grade "not accepted"**must meet the criteria for an "unsatisfactory" rating.

• **Mark "excellent"**– all types of educational work provided for by the curriculum have been completed. The student demonstrates the correspondence of knowledge, skills and abilities to the indicators given in the tables, operates with acquired knowledge, skills and abilities, and applies them in situations of increased complexity. In this case, inaccuracies and difficulties may occur during analytical operations and the transfer of knowledge and skills to new, non-standard situations.

• **Mark "good"**– all types of educational work provided for by the curriculum have been completed. The student demonstrates the correspondence of knowledge, skills and abilities to the indicators given in the tables, operates with acquired knowledge, skills and abilities, and applies them in standard situations. In this case, minor errors, inaccuracies, and difficulties during analytical operations and the transfer of knowledge and skills to new, non-standard situations may be made.

• **Mark "satisfactory"**– one or more types of educational work provided for by the curriculum have not been completed. The student demonstrates incomplete compliance of knowledge, abilities, skills with the indicators given in the tables, significant mistakes are made, a partial lack of knowledge, abilities, and skills is manifested in a number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations.

• **Mark "unsatisfactory"**– the types of educational work provided for by the curriculum are not completed, demonstrates incomplete compliance of knowledge, abilities, skills with those given in the tables of indicators, significant mistakes are made, a lack of knowledge, abilities, skills is manifested in a larger number of indicators, the student experiences significant difficulties in operating knowledge and skills when transferring them to new situations

## 6. ACCESSIBILITY AND QUALITY OF EDUCATION FOR PERSONS WITH DISABILITIES

If necessary, disabled people and persons with limited health capabilities are given additional time to prepare an answer for the test.

When carrying out the procedure for assessing the learning outcomes of people with disabilities and people with limited health capabilities, their own technical means can be used.

The procedure for assessing the learning outcomes of people with disabilities and people with limited health capabilities in the discipline provides for the provision of information in forms adapted to the limitations of their health and perception of information:

| | |
|---|---|
| For people with visual impairments: | – in printed form in enlarged font,<br>– in the form of an electronic document. |
| For people with hearing impairments: | – in printed form,<br>– in the form of an electronic document. |
| For persons with musculoskeletal disorders | – in printed form, device:<br>– in the form of an electronic document. |

When carrying out the procedure for assessing the learning outcomes of disabled people and persons with limited health capabilities in the discipline, it ensures the fulfillment of the following additional requirements depending on the individual characteristics of the students:

a) instructions on the procedure for conducting the assessment procedure are provided in an accessible form (orally, in writing);

b) an accessible form for submitting assignments of assessment tools (in printed form, in printed form in enlarged font, in the form of an electronic document, assignments are read out by the teacher);

c) an accessible form of providing answers to assignments (written on paper, typing answers on a computer, orally).

If necessary, for students with disabilities and people with disabilities, the procedure for assessing learning outcomes in the discipline can be carried out in several stages.

The procedure for assessing the learning outcomes of disabled people and persons with limited health capabilities is permitted using distance learning technologies.