# The list of academic disciplines of the university component

8D09 - Veterinary
(Code and classification of the field of education)

8D091 - Veterinary
(Code and classification of the direction of training)

0841
(Code in the International Standard Classification of Education)

D138 - Veterinary science
(Code and classification of the educational program group)

8D09102 - Veterinary sanitation
(Code and name of the educational program)

Doctor of philosophy (PhD)
(Level of preparation)

set of 2024

Semey 2024

## Developed
By the Academic Committee of the EP
Head of AK Yessengulova N.
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## Reviewed
at the meeting of the Commission on Academic Quality of the Faculty of Veterinary Medicine and Agricultural Management by protocol No. 3 of January 09, 2024.
at a meeting of the Academic Quality Commission
Research School of Veterinary Medicine and Agriculture.
Recommended for approval by the University Academic Council
Protocol No. 6 dated June 06, 2024

## Approved
at a meeting of the University Academic Council by protocol No. 6/1 of January 19, 2024.

at a meeting of the University Academic Council by protocol No. 11 of June 28, 2024.

## Statistics and experimental design using R

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|---|---|
| Discipline cycle | Basic disciplines |
| Course | 1 |
| Credits count | 3 |
| Knowledge control form | Examination |

### Short description of discipline
*The course provides an in-depth study of statistical methods and principles of experimental design using the R programming language. The course examines real-world research examples, starting with descriptive statistics and ending with complex experimental designs. The course will prepare students to independently perform data analysis, design experiments and interpret the results.*

### Purpose of studying of the discipline
*doctoral students tudents will master modern statistical methods of data analysis and the principles of experimental design using the R programming language, which will allow them to effectively apply this knowledge in scientific research.*

### Learning Outcomes
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline
*Doctoral students master the basic methods used in statistical data processing in scientific research using the R programming language.*
*Knowledge of basic statistical concepts and methods.*
*The ability to use R software for statistical data analysis.*
*Skills of independent design of experiments and interpretation of their results.*
*The ability to use the results obtained in real scientific and applied research.*
*Негізгі статистикалық ұғымдар мен әдістерді білу.*

### Prerequisites
*Masters degree course*

### Postrequisites
*Doctoral student research work, including internship and doctoral dissertation II*

## Academic writing

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|---|---|
| Discipline cycle | Basic disciplines |
| Course | 1 |
| Credits count | 5 |
| Knowledge control form | Examination |

### Short description of discipline
*The discipline studies concepts and models of academic writing. Genres of academic writing from the text. Use various models and technologies of academic writing in the work on the text. Methods of editing and editing of scientific text, types and techniques of its editing. Analyze and use international norms and requirements for a scientific text. The doctoral student should be able to describe the search for bibliographic sources and databases. Prepare annatation and censorship for scientific papers.*

### Purpose of studying of the discipline
*fFamiliarization of doctoral students with the main varieties of scientific discourse, the study of the features of the scientific style of speech, its main genres, the formation of skills for creating written and oral academic texts, mastering the basic principles of communication in the academic environment.*

### Learning Outcomes
*ON1 Own the methodology of writing scientific texts: essays, term papers, diplomas, doctoral dissertations, articles, monographs.*

### Learning outcomes by discipline
*- analyze essays and scientific articles, apply the acquired knowledge when creating research papers in written and oral form;*
*-has a technique of text analysis that contributes to the accurate perception of the original utterance;*
*- knows the methodology of working with text, including searching for information in reference, specialized literature and computer networks.*
*- prepare speeches (reports); work with various genres of academic writing*

### Prerequisites
*Masters degree course*

### Postrequisites
*Modern problems of food safety*

## Veterinary-sanitary examination with the basics of HACCP

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|---|---|
| Discipline cycle | Basic disciplines |
| Course | 1 |
| Credits count | 5 |
| Knowledge control form | Examination |

### Short description of discipline
*TThe discipline studies the basics, principles and steps of HACCP implementation at livestock industry enterprises.*
*Hazard analysis and assessment of critical control points in production. Development of a Production control Program and a HACCP Plan in production.*
*To analyze the veterinary and sanitary examination taking into account the analysis of hazards and the assessment of critical control points at the stages of the technological process in accordance with the requirements of HACCP.*
*Development of a monitoring system and conducting veterinary and sanitary examination at the stages of critical control points.*

### Purpose of studying of the discipline
*Training of PhD students with a high level of professional culture, understanding and solving modern scientific and practical problems in science and practice; knowledge of Veterinary Information in Kazakhstan and abroad, consciously answering questions of state*

*veterinary control over Product Safety; Promotion of research and management in various fields of Veterinary Medicine.*

### Learning Outcomes

*ON2 Apply scientific developments of veterinary and sanitary examination at the objects of veterinary and sanitary control based on the principles of HACCP.*
*ON5 Introduce innovative methods of educational technology in the educational process.*
*ON7 To control the safety and quality of raw materials, materials and finished products of animal and vegetable origin at the stages of production and storage.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline

*identify pathogenic substances, names and definitions of food products and raw materials, identify toxic infections;:*
*- identification of genetically modified forms, names and definitions in food products and raw materials ;*
*- methods for determining pathogenic substances in food products and raw materials;:*
*- methods for determining genetically modified forms in food products and raw materials;;*
*- methods and methods of scientific research;;*
*- research and processing of their results;*
*- methods of collecting and analyzing scientific information;*
*- special disciplines, methods of teaching pedagogy and psychology in higher educational institutions;;*
*–issues of State Veterinary and sanitary control on Product Safety;;*
*- in order to prevent the sale of products that have a negative impact on the health of consumers, animal products and raw materials are prepared, produced, processed, and manufactured,*
*Google Переводчик*

### Prerequisites

*Masters degree course*

### Postrequisites

*Modern problems of food safety*

## Research methods

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|---|---|
| Discipline cycle | Basic disciplines |
| Course | 1 |
| Credits count | 5 |
| Knowledge control form | Examination |

### Short description of discipline

*Functions of science. Scientific knowledge, its principles, the laws of obtaining, the level of education. The logic of scientific research. The hypothesis of the study. A systematic approach in science and technology. Information approach in research. Modeling. Transformation of information in the process of research. The choice of a problem in scientific research. Planning and control of scientific research. Examination and presentation of the results of scientific research.*

### Purpose of studying of the discipline

*Preparation of PhD doctors of a high level of professional culture who are able to comprehend and solve modern scientific and practical problems in science and practice; know information on veterinary medicine in Kazakhstan and abroad, consciously answer questions of state veterinary control of product safety; promote research and management in various fields of veterinary medicine.*

### Learning Outcomes

*ON5 Introduce innovative methods of educational technology in the educational process.*
*ON8 Organize and conduct research on veterinary medicine.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline

*veterinary sanitation expertise and understanding of veterinary sanitation and biotechnology at the global level;*
*- financing of the modern system of veterinary medicine and scientific research;*
*- to solve the issues of modern veterinary medicine and biotechnology;*
*- organization of scientific research in the search and use of scientific information, design and presentation of scientific results.*
*- organization of scientific research in the search and use of scientific information, design and presentation of scientific results ;*

### Prerequisites

*Masters degree course*

### Postrequisites

*Modern problems of food safety*

## Doctoral student research work, including internship and doctoral dissertation I

| | |
|---|---|
| Discipline cycle | Profiling discipline |
| Course | 1 |
| Credits count | 15 |
| Knowledge control form | Total mark on practice |

### Short description of discipline

*Forms in-depth knowledge and skills in the chosen doctoral program in the direction of veterinary medicine. It provides an opportunity to study general scientific and special methods of conducting modern research, as well as the basic principles of organizing and planning scientific work. Helps to master the general requirements for the structure, content and design of the doctoral student`s scientific work. Develops the ability to find, process and analyze scientific literature, develop modern research methods when performing research work. Allows for the approbation and implementation of the results of scientific research into production.*

### Purpose of studying of the discipline

*The purpose of the research work is to prepare a doctoral student who knows how to apply new theoretical, methodological and technological achievements of domestic and foreign veterinary science, apply modern methods of scientific research, processing and interpretation of experimental knowledge in the field of veterinary medicine. Planning and organization of scientific experiments on approved topics.*

### Learning Outcomes
*ON8 Organize and conduct research on veterinary medicine.*
### Learning outcomes by discipline
*- organizes, plans, and conducts scientific experiments on an approved topic;*
*- implements research results;*
*- applies the results of research in scientific and pedagogical activities*
### Prerequisites
*Masters degree course*
### Postrequisites
*Doctoral student research work, including internship and doctoral dissertation I Doctoral student research work, including internship and doctoral dissertation II*

## Doctoral student research work, including internship and doctoral dissertation II

| | |
|---|---|
| Discipline cycle | |
| Course | 1 |
| Credits count | 20 |
| Knowledge control form | Examination |

### Short description of discipline
*Forms in-depth knowledge and skills in the chosen doctoral program in the direction of veterinary medicine. It provides an opportunity to study general scientific and special methods of conducting modern research, as well as the basic principles of organizing and planning scientific work. Helps to master the general requirements for the structure, content and design of the doctoral student`s scientific work. Develops the ability to find, process and analyze scientific literature, develop modern research methods when performing research work. Allows for the approbation and implementation of the results of scientific research into production.*
### Purpose of studying of the discipline
*To prepare a doctoral student who owns new theoretical, methodological and technological achievements of domestic and foreign veterinary science, to apply modern methods of scientific research, processing and interpretation of experimental knowledge in the field of veterinary medicine. Planning and organization of scientific experiments on approved topics.*
### Learning Outcomes
*ON1 Own the methodology of writing scientific texts: essays, term papers, diplomas, doctoral dissertations, articles, monographs.*
*ON8 Organize and conduct research on veterinary medicine.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*
### Learning outcomes by discipline
*- organizes, plans, and conducts scientific experiments on an approved topic;*
*- implements the results of scientific research;*
*- applies the results of research in scientific and pedagogical activities.*
### Prerequisites
*Masters degree course*
### Postrequisites
*Doctoral student research work, including internship and doctoral dissertation IV Doctoral student research work, including internship and doctoral dissertation III*

## Pedagogical practice

| | |
|---|---|
| Discipline cycle | Basic disciplines |
| Course | 2 |
| Credits count | 10 |
| Knowledge control form | Total mark on practice |

### Short description of discipline
*the pedagogical practice of doctoral students is aimed at the formation of functional competencies, the development of abilities to perform tasks in the professional and educational spheres. In the process of pedagogical practice, the professional and personal development of future teachers is activated. During the practice, doctoral students draw up and implement an educational activity plan with a group of students, develop and conduct a system of classes reflecting the completed segment of the learning process based on the content of the profile disciplines, demonstrate mastery of modern technologies and teaching methods.*
### Purpose of studying of the discipline
*The purpose of pedagogical practice: the formation and development of the doctoral student`s professional skills of a higher school teacher; mastering the basics of pedagogical skills, skills and skills of independent conduct of educational work.*
### Learning Outcomes
*ON5 Introduce innovative methods of educational technology in the educational process.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*
### Learning outcomes by discipline
*- navigate the organizational structure and regulatory documentation of the institution of vocational education;*
*- to be guided in the theoretical foundations of the science of the taught subject;*
*- didactically transform the results of modern scientific research in order to use them in the educational process;*
*- use modern innovations in the process of professional training;*
*- build relationships with colleagues, find, make and implement management decisions in their scientific and pedagogical practice;*
*- master conducting various types of classes with students in the academic discipline assigned to him.*
### Prerequisites
*Masters degree course*
### Postrequisites
*Doctoral student research work, including internship and doctoral dissertation IV Doctoral student research work, including internship and doctoral dissertation V*

## Doctoral student research work, including internship and doctoral dissertation III

| | |
|---|---|
| Discipline cycle | |
| Course | 2 |
| Credits count | 20 |
| Knowledge control form | Examination |

### Short description of discipline
*Forms in-depth knowledge and skills in the chosen doctoral program in the direction of veterinary medicine. It provides an opportunity to study general scientific and special methods of conducting modern research, as well as the basic principles of organizing and planning scientific work. Helps to master the general requirements for the structure, content and design of the doctoral student`s scientific work. Develops the ability to find, process and analyze scientific literature, develop modern research methods when performing research work. Allows for the approbation and implementation of the results of scientific research into production.*

### Purpose of studying of the discipline
*The purpose of the research work is to prepare a doctoral student who owns new theoretical, methodological and technological achievements of domestic and foreign veterinary science, to apply modern methods of scientific research, processing and interpretation of experimental knowledge in the field of veterinary medicine. Planning, organization of scientific experiments on approved topics and implementation of research results.*

### Learning Outcomes
*ON8 Organize and conduct research on veterinary medicine.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline
*- - organizes, plans, and conducts scientific experiments on an approved topic;*
*- development of research methods and tools and analysis of their results;*
*- implements the results of scientific research;*
*- applies the results of research in scientific and pedagogical activities.*

### Prerequisites
*Masters degree course*

### Postrequisites
*Doctoral student research work, including internship and doctoral dissertation IV Doctoral student research work, including internship and doctoral dissertation V*

## Doctoral student research work, including internship and doctoral dissertation IV

| | |
|---|---|
| Discipline cycle | |
| Course | 2 |
| Credits count | 30 |
| Knowledge control form | Examination |

### Short description of discipline
*Forms in-depth knowledge and skills in the chosen doctoral program in the direction of veterinary medicine. It provides an opportunity to study general scientific and special methods of conducting modern research, as well as the basic principles of organizing and planning scientific work. Helps to master the general requirements for the structure, content and design of the doctoral student`s scientific work. Develops the ability to find, process and analyze scientific literature, develop modern research methods when performing research work. Allows for the approbation and implementation of the results of scientific research into production.*

### Purpose of studying of the discipline
*The purpose of the research work is to prepare a doctoral student who owns new theoretical, methodological and technological achievements of domestic and foreign veterinary science, to apply modern methods of scientific research, processing and interpretation of experimental knowledge in the field of veterinary medicine. Planning and organization of scientific experiments on approved topics.*

### Learning Outcomes
*ON8 Organize and conduct research on veterinary medicine.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline
*- - organizes, plans, and conducts scientific experiments on an approved topic;*
*- implements the results of scientific research;*
*- applies the results of research in scientific and pedagogical activities.*

### Prerequisites
*Doctoral student research work, including internship and doctoral dissertation III*

### Postrequisites
*Doctoral student research work, including internship and doctoral dissertation V*

## Research practice

| | |
|---|---|
| Discipline cycle | Profiling discipline |
| Course | 3 |
| Credits count | 10 |
| Knowledge control form | Total mark on practice |

### Short description of discipline
*Research work aimed at deepening and systematizing the theoretical and methodological training of a doctoral student, practical mastery of the technology of research activities, acquisition and improvement of practical skills in performing scientific and experimental work in accordance with the requirements for the level of training of a PhD doctor.*

### Purpose of studying of the discipline
*The purpose of research practice is to consolidate, expand and systematize the knowledge gained in the study of special disciplines based on the study of the activities of a particular organization; acquisition of initial practical experience in the chosen direction. Build an*

*algorithm for conducting and evaluating the results obtained.*

### Learning Outcomes

*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline

*- apply modern research methods, conduct technical tests and (or) scientific experiments, evaluate the results of the work performed;*
*- Formalize, present and report the results of the work performed;*
*- use modern and promising computer and information technologies;*
*- to use modern achievements of science and advanced technology in research work;*
*- plan and set research tasks, choose methods of experimental work, interpret and present the results of scientific research, give practical recommendations for their implementation in production.*

### Prerequisites

*Research methods Doctoral student research work, including internship and doctoral dissertation III Statistics and experimental design using R*

### Postrequisites

*Doctoral student research work, including internship and doctoral dissertation VI*

## Doctoral student research work, including internship and doctoral dissertation V

| | |
|---|---|
| Discipline cycle | |
| Course | 3 |
| Credits count | 20 |
| Knowledge control form | Examination |

### Short description of discipline

*Forms in-depth knowledge and skills in the chosen doctoral program in the field of veterinary medicine. It provides an opportunity to study general scientific and special methods of conducting modern research, as well as the basic principles of organizing and planning scientific work. It helps to master the general requirements for the structure, content and design of the scientific work of a doctoral student. Develops the ability to find, process and analyze scientific literature, develop modern research methods when performing research work. It allows you to test and implement the results of scientific research in production.*

### Purpose of studying of the discipline

*The purpose of the research work is to train a doctoral student who is proficient in new theoretical, methodological and technological achievements of domestic and foreign veterinary science, to apply modern methods of scientific research, processing and interpretation of experimental knowledge in the field of veterinary medicine. Planning, organization of scientific experiments on approved topics and implementation of research results.*

### Learning Outcomes

*ON8 Organize and conduct research on veterinary medicine.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline

*- organizes, plans, conducts scientific experiments on the approved topic;*
*- development of methods and tools for conducting research and analysis of their results;*
*- implements the results of scientific research;*
*• applies the results of research in scientific and pedagogical activities.*

### Prerequisites

*Research methods Modern problems of food safety*

### Postrequisites

*Final examination*

## Doctoral student research work, including internship and doctoral dissertation VI

| | |
|---|---|
| Discipline cycle | |
| Course | 3 |
| Credits count | 18 |
| Knowledge control form | Examination |

### Short description of discipline

### Purpose of studying of the discipline

### Learning Outcomes

*ON8 Organize and conduct research on veterinary medicine.*
*ON9 Use modern techniques in scientific, educational and industrial activities.*

### Learning outcomes by discipline

### Prerequisites

*Doctoral student research work, including internship and doctoral dissertation IV Doctoral student research work, including internship and doctoral dissertation V*

### Postrequisites

*Final examination*