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**Federal State Autonomous Educational Institution of Higher Education**  
**PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA**  
**RUDN University**

**Agrarian and Technological Institute**

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educational division (faculty/institute/academy) as higher education programme developer

**COURSE SYLLABUS**

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**Breeding with the basics of private animal husbandry**

course title

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**Recommended by the Didactic Council for the Education Field of:**

**36.05.01 Veterinary**

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field of studies / speciality code and title

**The course instruction is implemented within the professional education programme of higher education:**

**36.05.01 Veterinary**

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higher education programme profile/specialisation title

## 1. COURSE GOAL(s)

The goal of the course "**Breeding with the basics of private animal husbandry**" is the formation of theoretical and practical knowledge on the breeding of farm animals (the basics of breeding work) and the study of technology for obtaining products from various types of farm animals.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course "**Breeding with the basics of private animal husbandry**" is aimed at creating the following competencies (parts of competencies) for students:

*Table 2.1. List of competences that students acquire through the course study*

Competence code	Competence descriptor	Competence formation indicators (within this course)
GPC-2	Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic factors on the physiological state of the animal organism	GPC-2.1 Have knowledge of the influence of natural, socio-economic, genetic and economic factors on the animal body.

## 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "**Breeding with the basics of private animal husbandry**" refers to the core part of block B1 of the Educational Program of Higher Education.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

*Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results*

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
GPC-2	Is able to interpret and evaluate in professional activity the influence of natural, socio-economic, genetic and economic	Biology with the basics of ecology Veterinary genetics	Animal health and welfare Feeding animals with the basics of forage production

	factors on the physiological state of the animal organism		General and Veterinary Ecology Base component Study practice Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification project Preparation for and passing the state exam
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#### 4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course «**Breeding with the basics of private animal husbandry**» is 7 credits.

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (full-time training)\**

Type of academic activities		Total academic hours	Semesters/training modules				
			3	4	-	-	
Contact academic hours		105	51	54	-	-	
including							
Lectures		35	17	18	-	-	
Lab work		70	34	36	-	-	
Seminars (workshops/tutorials)		-	-	-	-	-	
Self-study		117	109	8	-	-	
Evaluation and assessment (exam/pass/fail grading)		30	20	10	-	-	
<b>Course workload</b>		academic hours_	<b>252</b>	<b>180</b>	<b>72</b>	-	-
		credits	<b>7</b>	<b>5</b>	<b>2</b>	-	-

#### 5. COURSE CONTENTS

*Table 5.1. Course contents and academic activities types*

Course module title	Course module contents (topics)	Academic activities types
Module 1. Introduction	Topic 1.1. The origin of animals, breeds and their breeding.	Lectures, Lab work.
Module 2. The origin of animal species.	Topic 2.1. The concept of wild, domestic, agricultural and domesticated animals.	Lectures, Lab work.

Module 3. Animal breeds.	Topic 3.1. Properties, structure and composition of rocks.	Lectures, Lab work.
	Topic 3.2. Factors causing the formation and variability in animals.	Lectures, Lab work.
	Topic 3.3. Acclimatization.	Lectures, Lab work.
Module 4. Constitution, exterior, interior.	Topic 4.1. Basic principles of classification of types of constitution. The connection of the constitution with various manifestations of the vital activity of the organism.	Lectures, Lab work.
	Topic 4.2. Methods of studying the exterior, interior. The use of interior indicators in breeding.	Lectures, Lab work.
Module 5. Individual development of animals.	Topic 5.1. Concepts of growth and development. Patterns of ontogenesis.	Lectures, Lab work.
	Topic 5.2. Embryonic and postembryonic development. Factors affecting growth and development. Control of the growth and development of animals.	Lectures, Lab work.
Module 6. Productivity of animals.	Topic 6.1. Evaluation of animals by productivity. Factors affecting productivity (heredity, environment, reproductive abilities, suitability for industrial technology).	Lectures, Lab work.
	Topic 6.2. Principles of assessing the productivity of different animal species. Assessment of own productivity.	Lectures, Lab work.
Module 7. Selection, forms and methods of selection.	Topic 7.1. The essence and signs of selection. Conditions affecting the effectiveness of selection.	Lectures, Lab work.
	Topic 7.2. Genetic basis of selection. Forms of selection. Selection by origin.	Lectures, Lab work.
	Topic 7.3. Pedigrees. Selection by the quality of offspring.	Lectures, Lab work.
Module 8. Selection of farm animals.	Topic 8.1. The concept, forms and methods of selection. Selection and selection is the basis of selection. Selection according to the compatibility of genotypes.	Lectures, Lab work.
	Topic 8.2. Heterosis: concept, theories, selection for heterosis. Importance in animal husbandry.	Lectures, Lab work.
Module 9. Methods of breeding farm animals.	Topic 9.1. Purebred breeding. Breeding by lines and families	Lectures, Lab work.

	Topic 9.2. Related mating (inbreeding). Interbreeding. Hybridization.	Lectures, Lab work.
Module 10. Selection and breeding work in animal husbandry.	Topic 10.1. Production of products in the conditions of specialization, concentration of production. Selection of breeds, acquisition of the herd.	Lectures, Lab work.
	Topic 10.2. The relationship of breeding and commercial animal husbandry. Planning of breeding work.	Lectures, Lab work.
	Topic 10.3. Large-scale breeding.	Lectures, Lab work.
Module 11. Cattle breeding.	Topic 11.1. Systems and methods of keeping cattle at different times of the year.	Lectures, Lab work.
	Topic 11.2. Reproduction of cattle. Reproductive and sexual cycles of a cow. The choice of animals in the state of hunting. Breeding and calving techniques.	Lectures, Lab work.
	Topic 11.3. Rearing of young animals. Cultivation of repair young animals.	Lectures, Lab work.
Module 12. Pig breeding.	Topic 12.1. Specialization and types of pig farms. Methods of keeping in relation to sex, age and technological groups of pigs.	Lectures, Lab work.
	Topic 12.2. Reproduction of pigs. Reproductive and sexual cycle of queens. Selection of animals that are in a state of hunting. Planning of farrowing. Preparation of animals for farrowing and its implementation.	Lectures, Lab work.
	Topic 12.3. Raising suckling pigs, piglets from weaning to fattening. Selection and introduction of repair young animals into the herd.	Lectures, Lab work.
Module 13. Sheep breeding.	Topic 13.1. Features of reproduction. Lambing season.	Lectures, Lab work.
	Topic 13.2. Reproduction of sheep. Methods of rearing young animals. Organization of weaning.	Lectures, Lab work.

	Topic 13.3. Formation of otar. Keeping sheep in summer and winter. Fattening, feeding sheep, organization of shearing.	Lectures, Lab work.
Module 14. Horse breeding.	Topic 14.1. Working qualities and their use.	Lectures, Lab work.
	Topic 14.2. Productive horse breeding. Reproduction, cultivation, maintenance of horses.	Lectures, Lab work.
Module 15. Poultry farming.	Topic 15.1. Cultivation systems and methods of maintenance.	Lectures, Lab work.
	Topic 15.2. Acquisition, maintenance, maintenance of the parent herd in egg production.	Lectures, Lab work.
	Topic 15.3. Egg incubation. Cultivation of repair young animals. Production of broiler meat.	Lectures, Lab work.

## 6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

*Table 6.1. Classroom equipment and technology support requirements*

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	An auditorium for conducting lecture-type classes, equipped with a set of specialized furniture; a board (screen) and technical means of multimedia presentations.	- <i>Information stands.</i> - <i>Zoological models.</i>
Laboratory	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment.	- <i>Information stands.</i> - <i>Zoological models.</i>

Self-studies	An auditorium for independent work of students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to an electronic information and educational environment.	-
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## 7. RESOURCES RECOMMENDED FOR COURSE STUDIES

### *Main readings:*

1. Tunikov G.M. Animal breeding with the basics of private zootechny [Electronic resource] : Textbook / G.M. Tunikov, A.A. Korovushkin. - 3rd ed., erased. - St. Petersburg : Publishing House "Lan", 2017. - 744 p. - (Textbooks for universities. Special literature).- ISBN 978-5-8114-1850-3.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465012&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465012&idb=0)
2. Usmanova E.N., Buzmakova E.D., Kovrov A.V. Breeding of animals with the basics of private animal science: A textbook for laboratory and practical classes and independent work of students in the specialty 36.05.01 "Veterinary Medicine" 2018.-177p.  
<https://e.lanbook.com/book/129597>

### *Additional Readings:*

1. Polyantsev N.I. Technology of reproduction of breeding cattle [Electronic resource] : Textbook / N.I. Polyantsev. - 2nd ed., ispr. - St. Petersburg : Publishing House "Lan", 2014. - 288 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-1703-2.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465156&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465156&idb=0)
2. Animal breeding [Electronic resource] : Textbook / V.G. Kakhikalo [et al.]. - 2nd ed., ispr. and add. - St. Petersburg : Publishing House "Lan", 2014. - 448 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-1583-0.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=465184&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=465184&idb=0)
3. Animal breeding with the basics of private zootechny [Text/electronic resource] : Textbook. Part 1: Animal breeding / A.A. Nikishov [et al.]. - Electronic text data. - Moscow : Publishing House of RUDN, 2017. - 116 p. : ill. - ISBN 978-5-209-07451-9 : 64.13.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=460026&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=460026&idb=0)
4. Tsarenko P.P. Introduction to animal science [Electronic resource] : Textbook / P.P. Tsarenko, A.F. Shevkhuzhev. - St. Petersburg : Publishing House "Lan", 2017. - 300 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2546-4.  
[http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=464948&idb=0](http://lib.rudn.ru/MegaPro/UserEntry?Action=Rudn_FindDoc&id=464948&idb=0)

### *Internet sources*

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:  
- RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>

- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"

*2. Databases and search engines:*

- electronic foundation of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine [https:// www.yandex.ru/](https://www.yandex.ru/)
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

*Training toolkit for self- studies to master the course \*:*

1. The set of lectures on the course "**Breeding with the basics of private animal husbandry**".
2. Laboratory workshop on the course "**Breeding with the basics of private animal husbandry**".

\* - The training toolkit and guidelines for the internship are placed on the internship page in the university telecommunication training and information system under the set procedure.

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS COURSE RESULTS**

The assessment toolkit and the grading system\* to evaluate the level of competences (competences in part) formation as the course results are specified in the Appendix to the course syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

### **DEVELOPER:**

Associate Professor of the Department of Veterinary  
Medicine

Position, Basic curriculum

Signature

Nikishov A.A.

Full name.

### **HEAD OF EDUCATIONAL DEPARTMENT:**

Department of Veterinary Medicine

Name Basic Curriculum

Signature

Vatnikov Yu.A.

Full name.

### **HEAD OF HIGHER EDUCATION PROGRAMME:**

Director of the Department of Veterinary Medicine

Position, Basic curriculum

Signature

Vatnikov Yu.A.

Full name