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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**

Medicinal and poisonous plants

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course title

**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. GOALS AND OBJECTIVES OF THE COURSE

The aim of mastering the course "**Medicinal and poisonous plants**" is to provide students with knowledge about the most common medicinal and poisonous plants, the main active substances of plants, the use of medicinal plants in veterinary practice.

In order to achieve this goal in the process of teaching the course the following main tasks are solved:

- The study of the structure of plants at the level of morphology of vegetative and generative organs, taking into account their evolution;
- Study of external features of the most common medicinal and poisonous plants of the middle belt of Russia;
- getting acquainted with the basics of modern classification and international nomenclature of plants;
- to get an idea of the main active substances of plants and their influence on the animal organism;
- getting ideas about the main signs of poisoning by poisonous plants and methods of first aid in case of poisoning by poisonous plants;
- getting ideas about the use of medicinal plant raw materials in pharmacy and veterinary medicine.

## 2. REQUIREMENTS FOR LEARNING OUTCOMES

The implementation of the course "**Medicinal and poisonous plants**" is aimed at creating the following competencies (parts of competencies) for students:

*Table 2.1. List of competencies formed by students during the development of the course (results of the development of the course)*

<b>Competence code</b>	<b>Competence descriptor</b>	<b>Indicators of competence accomplishment (within the course)</b>
PC-10	Ability to analyze and adjust animal feeding to improve the effectiveness of the therapeutic process, prescribe therapeutic diets.	PC-10.1 Able to analyze a patient's diet to identify factors predisposing to the development of disease.

## 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "**Medicinal and poisonous plants**" belongs to the part formed by the participants of educational relations of the block B1 of the Educational Program of Higher Education.

As part of the Educational Program of Higher Education, students also master other courses and /or practices that contribute to achieving the planned results of mastering the course "**Medicinal and poisonous plants**".

*Table 3.1. List of Higher Education Program components courses that contribute to expected learning outcomes*

Competence code	Competence descriptor	Previous courses/modules, internships*	Subsequent courses/modules, internships*
PC-10	Ability to analyze and adjust animal feeding to improve the effectiveness of the therapeutic process, prescribe therapeutic diets.	Feeding animals with the basics of forage production	Fodder plants Horse diseases Diseases of productive animals Diseases of small pets Diseases of bees and entomophages Fish pathology and aquaculture Diseases of exotic animals Clinical internship Industrial practice Academic research practice with the preparation of a scientific qualification project Preparation for and passing the state exam

#### 4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the course "Medicinal and poisonous plants" is 2 credits.

Table 4.1. Types of academic activities during the period of the HE program mastering for *full-time* study

Types of academic activities		HOURS	Semesters				
			2	-	-	-	
Contact academic hours		36	36	-	-	-	
including							
Lectures		-	-	-	-	-	
Lab work		-	-	-	-	-	
Seminars (workshops/tutorials)		36	36	-	-	-	
Self-study		30	30	-	-	-	
Evaluation and assessment (exam/pass/fail grading)		6	6	-	-	-	
Course workload		Academic hour	72	72	-	-	-
		Credit unit	2	2	-	-	-

#### 5. COURSE CONTENTS

Table 5.1 Content of the course (module) by type of academic work

<b>Modules</b>	<b>Content of the modules (topics)</b>	<b>Types of academic activities</b>
Module 1. Introduction.	Topic 1.1. The importance of green plants in nature and human life. Protection of the plant world. Objectives of the course "Medicinal and poisonous plants. The history of the study of medicinal plants.	Seminar classes
Module 2. Basics of Botany	Topic 2.1. Basic concepts and definitions of botany. - Sections and tasks of botany; directions, methods and basic concepts of botany.	Seminar classes
	Topic 2.2. General characteristics of lower and higher plants: - The main features of higher plants	Seminar classes
Module 3. Plant morphology	Topic 3.1. Root: concept, structure and functions. - The functions of the root; - Differentiation of the roots; - metamorphosis of the root.	Seminar classes
	Topic 3.2. The shoot as a single organ: - the concept of the shoot and its functions; - types of shoots; morphology of the shoot (nodes, internodes); - metamorphosis of the shoot.	Seminar classes
	Topic 3.3. Leaf. - morphological structure and functions of the leaf; - classification of leaves; types of leaf veins; - leaf metamorphosis.	Seminar classes
Module 4. Plant systematics	Topic 4.1. Plant systematics as a science. - The concept of species in plants; - The system of botanical taxonomic categories; - lower and higher plants.	Seminar classes
	Topic 4.2. Algae. Classification. The importance of algae in nature. Algae used in pharmaceutical, food industry, animal feed production.	Seminar classes
	Topic 4.3. Higher spore plants. Medicinal and poisonous plants of the divisions: Plauraceae, Cattailaceae, Fernaceae.	Seminar classes

	Topic 4.4. Division of Holosemens. Medicinal and poisonous plants.	Seminar classes
	Topic 4.5. Division of Cloversperms. - Division of flowering plants into classes. Comparative characteristics of monocotyledonous and dicotyledonous classes.	Seminar classes
	Topic 4.6. Families of flowering plants. General characteristics of each family. Medicinal and poisonous plants of the families: - Buttercups (Ranunculaceae); - Rosaceae; - Legumes (Fabaceae); - Lamiaceae; - Celery (Apiaceae); - Solanaceae; - Asteraceae; - Liliaceae; - Poaceae.	Seminar classes
Module 5. Medicinal plants.	Topic 5.1. General information about medicinal plants, their botanical characteristics.	Seminar classes
	Topic 5.2. Physical, chemical and biological properties of biologically active substances.	Seminar classes
	Topic 5.3. The content of the main biologically active substances in medicinal plants, the effect on the animal body;	Seminar classes
	Topic 5.4. Technology of preparation and drying of raw materials and its chemical composition;	Seminar classes
	Topic 5.5. Applications in medicine and veterinary medicine based on the latest achievements of science.	Seminar classes
Module 6. Poisonous Plants.	Topic 6.1. General information about poisonous plants, their botanical characteristics. Prevention of poisoning.	Seminar classes
	Theme 6.2 Main signs of poisoning by poisonous plants; - Ways to provide first aid in case of poisoning by poisonous plants;	Seminar classes

	Topic 6.3. poisonous plants for mammals; poisonous plants for bees and hydrobionts; plants that give poisonous properties to honey, milk and other animal products.	Seminar classes
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## 6. COURSE EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Material and technical support of the course

<i>Classroom for Academic Activity Type</i>	<i>Equipping the classroom</i>	<b>Specialized educational/laboratory equipment, software and materials for the development of the course (if necessary)</b>
Seminary	An auditorium for conducting seminar-type classes, group and individual consultations, ongoing monitoring and interim certification, equipped with a set of specialized furniture and multimedia presentation equipment.	- <i>Herbarium Collections.</i> - <i>Computer.</i> - <i>Multimedia projector</i> - <i>Botanical preparations.</i> - <i>Wet preparations of plant organs;</i> - <i>Botanical moulages.</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.	-

## 7. RESOURCES RECOMMENDED FOR COURSE STUDIES

### *Main readings:*

1. AV Korobov, O.S. Bushukina, MN Sbitneva. Medicinal and poisonous plants in veterinary medicine. Textbook. Saint-Petersburg: Lan' Publishing House, 2007. - 256 c. ill.
2. M.E. Pavlova, A.A. Terekhin. Morphology of flowering plants. Textbook on botany M.; RUDN Publishing House, 2015. - 62 c. ill.
3. A.A. Terekhin, M.E. Pavlova, I. Istomina. Practicum on the course of botany. Moscow: RUDN Publishing House, 2019. Part 1- 104 p.: ill. Part 2- 108 p.: ill.
4. Gubanov I.A. et al. Identifier of vascular plants of the center of European Russia. - Moscow: Argus, 1995. - 560 c. ill.
5. A.A. Terekhin, M.E. Pavlova, I.I. Istomina. Plants of meadows and pastures. Textbook on botany M.; Publishing house of PFUR, 2016. - 110 c.
6. A.A. Terekhin, M.E. Pavlova, Surkov V.A. Poisonous plants. Textbook M.; Izd vo RUDN, 2015. - 80 c.
7. Yakovlev G.P., Chelombitko V.A. Botany. - SPb.: SPKhFA, 2003. - 415 p.:ill.

### *Additional Readings:*

1. Novikov V.S., Gubanov I.A. Popular atlas-detector. Wild plants. - Moscow, Drofa, 2002. - 416 p.: ill.
2. Pavlova M.E., Istomina I.I., Terekhin A.A. Herbarium. Rules of making and storage. Textbook. M.: Publishing house of PFUR, 2015 - 39 p.: ill.

*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/>
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

Educational and methodological materials for independent work of students during the development of the course/ module\*:

1. A course of lectures on the course "**Medicinal and poisonous plants**".
2. Seminary workshop on the course "**Medicinal and poisonous plants**".

\* - 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 Agrobiotechnological

Department

Position, Basic curriculum

Signature

Pavlova M.E

Full name.

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

Agrobiotechnological department

Name Basic Curriculum

Signature

Pakina E.N.

Full name.

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

Director of the Department of Veterinary Medicine

Position, Basic curriculum

Signature

Vatnikov Yu.A.

Full name