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

Agrarian and Technological Institute

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

COURSE SYLLABUS

Fodder plants

course title

Recommended by the Didactic Council for the Education Field of:

36.05.01 Veterinary

field of studies / speciality code and title

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

36.05.01 Veterinary

higher education programme profile/specialisation title

1. GOALS AND OBJECTIVES OF THE COURSE

The aim of mastering the course "**Fodder plants**" is to provide students with the knowledge that constitutes the biological basis of higher education in terms of structure, diversity, patterns of existence and planetary role of plants, the formation of student's ideas about the most common forage plants.

2. REQUIREMENTS FOR LEARNING OUTCOMES

The implementation of the course "**Fodder 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)

Competence code	Competence descriptor	Indicators of competence accomplishment (within the course)
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 "**Fodder 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 "**Fodder 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 Medicinal and poisonous 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
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4. COURSE WORKLOAD AND TRAINING ACTIVITIES

Course workload of the course "**Fodder 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

Modules	Content of the modules (topics)	Types of academic activities
Module 1. Fundamentals of Botany	Topic 1.1. Basic concepts and definitions of botany. - Sections and tasks of botany; directions, methods and basic concepts of botany.	Seminar classes
	Theme 1.2 General characteristics of lower and higher plants: - the main features of higher plants, - the importance of plants in nature and human life; - protection of the plant world.	Seminar classes

Module 2. Plant Morphology	Topic 2.1. Root: concept, structure and functions. - Root functions; root differentiation; root metamorphosis.	Seminar classes
	Topic 2.2. 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 2.3. Leaf. - morphological structure and functions of the leaf; - classification of leaves; types of leaf veins; - leaf metamorphosis.	Seminar classes
Module 3. Plant systematics	Topic 3.1. Plant systematics as a science. - The concept of species in plants; - phylogenetic systems of the plant world; - system of botanical taxonomic categories;	Seminar classes
	Topic 3.2. Division of the division of flowering plants into classes. Comparative characteristics of monocotyledonous and dicotyledonous classes. - Characteristics of families on the example of major medicinal and fodder plants.	Seminar classes
Module 4. Fodder plants.	Theme 4.1 General information about forage plants, their botanical characteristics. - The content of the main biologically active substances in forage plants and their effect on the body of animals.	Seminar classes
	Topic 4.2 General information about poisonous plants, their botanical characteristics. Prevention of poisoning. - The main signs of poisoning by poisonous plants; - methods of first aid in case of poisoning by poisonous plants.	Seminar classes

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>	Specialized educational/laboratory equipment, software and materials for the development of the course (if necessary)
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>teaching herbarium,</i> - <i>the collection of the Khrzhanov Museum Herbarium. V.G. Khrzhanovsky,</i> - <i>living plant material,</i> - <i>collections of fixed generative and vegetative plant organs,</i> - <i>auxiliary equipment and materials.</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. Terekhin Alexey Alekseyevich. Plants of meadows and pastures: a training manual / a.a. terekhin, m.e. pavlova, i. Istomina. - electronic text data. - m.: rudn, 2016. - 110 c. - isbn 978-5-209-06445-9: <https://lib.rudn.ru/megapro/web/searchresult/topage/1>
2. Main species and varieties of fodder crops. Results of scientific activities of the central breeding center / z. Sh. Shamsutdinov, g. I. Ivshin, g. F. Kuleshov, m. Yu novoselov; ed. Z. Sh. Shamsutdinov, a.s. novoselova. - moscow: nauka, 2015. - 545 c. - isbn 978-5-02-039110-9: <https://lib.rudn.ru/megapro/web/searchresult/topage/1>
3. Tumanyan a.f. legume fodder plants: textbook / a.f. tumanyan, g.f. semukhina. - moscow: technica, 2000.: ill. - isbn 5-93969-003-3: <https://lib.rudn.ru/megapro/web/searchresult/topage/1>

Additional Readings:

1. Meadow farming: Textbook for universities / V.A. Tyuldyukov, N.G. Andreev, V.A. Voronkov, V.A. Savitskaya; ed. by V.A. Tyuldyukov. - Moscow: Kolos, 1995. - 415 p.: ill. - (Textbooks and teaching aids for students of higher agricultural educational institutions). - ISBN 5-10-002926-9: 35.00.
2. Fodder production with the basics of farming: Textbook / N.G. Andreev, V.A. Tyuldyukov, V.A. Savitskaya, I.S. Gavrilov; N.G. Andreev, V.A. Tyuldyukov, V.A. Savitskaya, etc. ed. by N.G. Andreev. - M.: Agropromizdat, 1991. - 559 p.: ill. -

(Textbooks and tutorials for students of technical colleges). - ISBN 5-1000-0606-4: 1.60.

3. Ievlev Nikolai Ivanovich. Forage plants on peat soils of the European North / N. I. Ievlev. - L.: Nauka, 1983. - 149 p.: ill. - 1.50.
<https://lib.rudn.ru/MegaPro/Web/SearchResult/ToPage/1>

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
- 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 "**Fodder plants**".
2. Seminary workshop on the course "**Fodder 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 Agrobiotechnology

Department

Position, Basic curriculum

Signature

Pavlova M.E.

Full name.

HEAD OF EDUCATIONAL DEPARTMENT:

Agrobiotechnology Department

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Signature

Pakina E.N.

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**HEAD OF
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