

Документ подписан простой электронной подписью
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**Federal State Autonomous Educational Institution of Higher Education
Peoples' Friendship University of Russia named after Patrice Lumumba
RUDN University**

Agrarian and Technological Institute

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

COURSE SYLLABUS

PLANT PROTECTION IN ORGANIC FARMING

course title

Recommended by the Didactic Council for the Education Field of:

35.04.04 AGRONOMY

field of studies / speciality code and title

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

INTEGRATED PLANT PROTECTION

higher education programme profile/specialisation title

1. COURSE GOAL(s)

The discipline "Plant Protection in Organic Farming" is part of the Master's program "Integrated Plant Protection" under the field of study 35.04.04 "Agronomy" and is studied in the 2nd semester of the 1st year. The discipline is delivered by the Agrobiotechnology Department.

The discipline consists of 6 sections and 8 topics and is aimed at studying pests, pathogens and weeds.

The purpose of mastering the discipline is: to familiarize students with the possibilities and methods of practical use of natural regulators of the development of populations of pests, pathogens and weeds.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the discipline "Plant Protection in Organic Farming" is aimed at developing the following competencies (parts of competencies) in students:

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

Competence code	Competence descriptor	Competence formation indicators (within this course)
GC-2	Able to manage a project at all stages of its life cycle	GC-2.1 Develops a project concept within the defined problem, formulating the goal, objectives, relevance, significance (scientific, practical, methodological, etc., depending on the project type), expected results and possible areas of their application; GC-2.2 Forms a schedule for the implementation of the project as a whole and a plan for monitoring its execution, organizes and coordinates the work of project participants; GC-2.3 Proposes possible ways (algorithms) for implementing the project results into practice (or implements it);
PC-2	Able to develop methodologies for conducting experiments, master new research methods	PC-2.2 Applies modern types and methodologies of observations and accounting in field experiments;
PC-4	Able to create models of crop cultivation technologies, plant protection systems, and varieties	PC-4.3 Carries out the creation of plant protection systems for specific production conditions;

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline "Plant Protection in Organic Farming" belongs to the part formed by participants of educational relations of Block 1 "Disciplines (modules)" of the higher education program.

Within the framework of the higher education program, students also master other disciplines and/or practices that contribute to achieving the planned learning outcomes of the discipline "Plant Protection in Organic Farming".

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*	Subsequent courses/modules*
GC-2	Able to manage a project at all stages of its life cycle	Scientific research work;	Undergraduate practice/Pre-diploma practice; Scientific research work; Biotechnology in Plant Protection; Organization of Integrated Plant Protection Systems;
PC-2	Able to develop methodologies for conducting experiments, master new research methods	Scientific research work; Molecular Methods of Diagnostics**;	Scientific research work; Plant Quarantine; Biotechnology in Plant Protection; Organization of Integrated Plant Protection Systems; Plant immunity; Instrumental methods of research;
PC-4	Able to create models of crop cultivation technologies, plant protection systems, and varieties	Pest Risk Analysis**; Forecast of Development of Agricultural Pests and Diseases**; Nematodes**; Bacterial Diseases;	Mathematical Modeling and Design; Organization of Integrated Plant Protection Systems; Plant immunity; Virology;

* To be filled in according to the competence matrix of the higher education programme.

** – Elective disciplines/practices

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total labor intensity of the discipline "Plant Protection in Organic Farming" is 3 credit units.

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
		2
<i>Contact academic hours</i>	48	48
including:		
Lectures (LC)	24	24
Lab work (LW)	0	0
Seminars (workshops/tutorials) (S)	24	24
<i>Self-studies</i>	48	48
<i>Evaluation and assessment (exam/passing/failing grade)</i>	12	12
Course workload	academic hours	108
	credits	3

* To be filled in regarding the higher education programme correspondence training mode.

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Module 1: History of development and current state of plant protection in organic farming	Topic 1.1. The main factors in the regulation of the number of harmful organisms.	
	Topic 1.2. Ecological bases of plant protection in organic farming.	
Module 2: Entomophages	Topic 2.1. Methods of using entomophages	
	Topic 2.2. Trichogramma, Habrobracon, Encarsia, Syrphidae, Rodolia	
Module 3: Acariphages	Topic 3.1. Phytoseiulus, Amblyseius	
Module 4: Phytophages	Topic 4.1. Prospects for use. Phytophages	
Module 5: Genetic methods of insect control	Topic 5.1. Methods of sterilization. Chemosterilants.	
Module 6: Production technology and methods of control over the effectiveness of biological products in organic farming	Topic 6.1. Biopesticides; biologically active substances in plant protection.	

* - to be filled in only for **full**-time training: *LC* - lectures; *LW* - lab work; *S* - seminars.

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	A lecture hall for lecture-type classes, equipped with a set of specialized furniture; board (screen) and technical means of multimedia presentations.	Set of specialized furniture; technical means: EPSON EB-965 multimedia projector, Laptop, internet access available. Software: Microsoft products (OS, office applications package, including MS Office/Office 365, Teams, Skype)
Seminar	A classroom for conducting seminars, group and individual consultations, current and mid-term assessment; equipped with a set of specialized furniture and technical means for multimedia presentations.	Interactive complex – Triumph Board interactive whiteboard with Optoma projector
Self-studies	A classroom for independent work of students (can be used for seminars and consultations), equipped with a set of specialised furniture and computers with access to the electronic information and educational environment.	

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

1. Belchenko, S.A. *Biological agriculture: a textbook for universities* / S.A. Belchenko, O.V. Melnikova, M.P. Naumova. — Saint Petersburg: Lan, 2025. — 100 p. — ISBN 978-5-507-51687-2. — Text: electronic // Lan: electronic library system. — URL: <https://e.lanbook.com/book/455588>
2. Korsunova, T.J. *Sustainable agriculture* / T.J. Korsunova, E.G. Imeskenova. — 2nd ed., revised. — Saint Petersburg: Lan, 2023. — 132 p. — ISBN 978-5-507-47204-8. — Text: electronic // Lan: electronic library system. — URL: <https://e.lanbook.com/book/341174>

Additional readings:

1. *Biological protection of plants from stress: a textbook for universities* / L.Z. Karimova, V.A. Kolesar, R.I. Safin, G.K. Khuzina. — 3rd ed., revised. — St. Petersburg: Lan, 2024. — 100 p. — ISBN 978-5-507-49137-7. — Text: electronic // Lan: electronic library system. — URL: <https://e.lanbook.com/book/379346>
2. Glukhykh, M.A. *Farming systems and their development: a textbook for universities* / M.A. Glukhykh. — 3rd ed., ster. — St. Petersburg: Lan, 2025. — 116 p. — ISBN 978-5-507-50680-4. — Text: electronic // Lan: electronic library system. — URL: <https://e.lanbook.com/book/456839>

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 "Znaniy": <https://znaniy.ru/>

2. Databases and search engines:

- Sage: <https://journals.sagepub.com/>
- Springer Nature Link: <https://link.springer.com/>
- Wiley Journal Database: <https://onlinelibrary.wiley.com/>
- Scientometric database Lens.org: <https://www.lens.org>

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

- Lecture course on the discipline "Plant Protection in Organic Farming".

* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure.

DEVELOPERS:

Professor of the Agrobiotechnology Department

Pakina E. N.

position, department

name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

Director of the Agrobiotechnology Department

Pakina E. N.

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**HEAD
OF HIGHER EDUCATION PROGRAMME:**

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