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

Agrarian -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

2025

1. COURSE GOAL(s)

The purpose of mastering the discipline "Plant Protection in Organic Farming" is to familiarize 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 the formation of the following competencies (part of the competencies) among students:

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

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

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

Mastering the discipline "Plant Protection in Organic Farming" is aimed at forming the following competencies (part of the competencies) among students:

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*
GK-2	Able to manage the project at all stages of its life cycle	Scientific research work / Научно-исследовательская работа;	Biotechnology in Plant Protection; Organization of Integrated Plant Protection Systems; Undergraduate practice / Преддипломная практика; Scientific research work / Научно-исследовательская работа;
PK-2	Able to develop methods of conducting experiments, master new research methods	Scientific research work / Научно-исследовательская работа; Molecular Methods of Diagnostics;	Scientific research work / Научно-исследовательская работа; Plant Quarantine; Biotechnology in Plant Protection; Organization of Integrated Plant Protection Systems; Plant immunity; Instrumental methods of research;
PK-4	Able to create models of crop cultivation technologies, plant protection systems, 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.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

Possible wording

The total labor intensity of the discipline "Plant Protection in Organic Farming" is 3 credits for full-time education.

Table 4.1 – Types of educational work by periods of mastering the OP HE for full-time education

Type of academic activities	Total academic hours	Semesters/training modules			
		1	2	3	4
Contact academic hours	*48*		*48*		
including:					
Lectures (LC)	24		24		
Lab work (LW)					
Seminars (workshops/tutorials) (S)	*24*		24		
Self-studies	*48*		*48*		
Evaluation and assessment (exam/passing/failing grade)	*12*		*12*		

Type of academic activities		Total academic hours	Semesters/training modules			
			1	2	3	4
Course workload	academic hours_	**108**		**108**		
	credits	**3**		**3**		

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.	LC; S
	Topic 1.2. Ecological bases of plant protection in organic farming. Forms of relationships of organisms in biocenoses.	LC; S
Module 2: Entomophages	Topic 2.1. Methods of using entomophages	LC; S
	Topic 2.2. Trichogramma, gabrobracon, encarsia, sirphids, rhodolia	LC; S
Module 3: Acarifagi	Topic 3.1. Phytoseyulus. Ambiseyulus	LC; S
Module 4: Phytophages	Topic 4.1. Prospects for use. Phytomisa	LC; S
Module 5. Genetic methods of insect control	Topic 5.1. Methods of sterilization. Chemosterilants. Methods and conditions of application	LC; S
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. Conditions of use; efficiency; ecological compatibility	LC; S

* - 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 Hall	Auditorium for lecture-type classes, equipped with a set of specialized furniture; whiteboard (screen) andtechnical means of multimedia presentations.	
Seminary	An auditorium for seminar-type classes, group and individual consultations, current control	

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
	and intermediate certification, equipped with a set of specialized furniture and technical means of multimedia presentations.	
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., erased. -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., erased. — 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/

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/

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

The set of lectures on the course «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:

position, department	name and surname
position, department	name and surname
position, department	name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

name of department	name and surname

HEAD
OF HIGHER EDUCATION PROGRAMME:

position, department	name and surname