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 QUARANTINE

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

2026

1. COURSE GOAL(s)

The discipline "Plant Quarantine" is part of the Master's program "Integrated Plant Protection" under the field of study 35.04.04 "Agronomy" and is studied in the 4th semester of the 2nd year. The discipline is delivered by the Agrobiotechnology Department.

The discipline consists of 4 sections and 9 topics and is aimed at studying quarantine and other particularly dangerous organisms.

The purpose of mastering the discipline is: formation of ideas, theoretical knowledge, practical skills and abilities to protect the plant resources of Russia and products from importation from foreign countries and the spread of quarantine and other particularly dangerous harmful organisms.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the discipline "History and Methodology of Scientific Agronomy" 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)
GPC-1	Able to solve problems of development of the field of professional activity and/or organization based on the analysis of scientific and production achievements	GPC-1.2 Uses methods for solving problems of agronomy development based on search and analysis of modern scientific and production achievements; GPC-1.3 Applies available technologies, including information and communication technologies, to solve professional tasks in agronomy;
GPC-4	Able to conduct scientific research, analyze results and prepare reporting documents	GPC-4.2 Uses information resources, scientific, experimental and instrumental base for conducting research in agronomy;
PC-1	Able to collect, process, analyze and systematize scientific and technical information, domestic and foreign experience in the field of agronomy	PC-1.1 Performs critical analysis of the information received;
PC-2	Able to develop methodologies for conducting experiments, master new research methods	PC-2.1 Develops methodologies for conducting experiments;
PC-7	Able to carry out phytosanitary control at the state border to protect the territory of the Russian Federation from the penetration of quarantine and other dangerous pathogens of plant diseases and pests, and weeds	PC-7.1 Recognizes quarantine objects and identifies quarantine pests and pathogens; PC-7.2 Conducts examination of crops and plant products for the presence of quarantine objects;

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline "Plant Quarantine" belongs to the mandatory part 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 Quarantine".

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*
GPC-1	Able to solve problems of development of the field of professional activity and/or organization based on the analysis of scientific and production achievements	Scientific research work; Scientific and Research Practice; Biological Method of Plant Protection; Instrumental methods of research; Mathematical Modeling and Design; Bacterial Diseases; Virology; Organization of Integrated Plant Protection Systems; Information Technology;	
GPC-4	Able to conduct scientific research, analyze results and prepare reporting documents	Scientific research work; Scientific and Research Practice; Instrumental methods of research; Mathematical Modeling and Design; Bacterial Diseases; Virology; Biological Method of Plant Protection; Organization of Integrated Plant Protection Systems;	
PC-1	Able to collect, process, analyze and systematize scientific and technical information, domestic and foreign experience in the field of agronomy	Scientific research work; Scientific and Research Practice; Pest Risk Analysis**; Forecast of Development of Agricultural Pests and Diseases**; Organization of Integrated Plant Protection Systems; History and methodology of scientific Agronomy; Information Technology;	
PC-2	Able to develop methodologies for conducting experiments,	Scientific research work; Scientific and Research Practice; Molecular	

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
	master new research methods	Methods of Diagnostics**; Biological Method of Plant Protection; Organization of Integrated Plant Protection Systems; Plant Protection in Organic Farming**; Instrumental methods of research;	
PC-7	Able to carry out phytosanitary control at the state border to protect the territory of the Russian Federation from the penetration of quarantine and other dangerous pathogens of plant diseases and pests, and weeds	Nematodes**; Molecular Methods of Diagnostics**; Bacterial Diseases; 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 Quarantine" is 4 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
			4
Contact academic hours		*50*	*50*
including:			
Lectures (LC)		20	20
Lab work (LW)		0	0
Seminars (workshops/tutorials) (S)		30	30
Self-studies		*85*	*85*
Evaluation and assessment (exam/passing/failing grade)		*9*	*9*
Course workload	academic hours	**144**	144
	credits	**4**	4

* 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: The subject and objectives of plant	Topic 1.1. The subject and objectives of plant quarantine, its relationship with other agronomic	LC, S

Course module title	Course module contents (topics)	Academic activities types
quarantine	and biological sciences.	
Module 2: Pests, pathogens and weeds of quarantine importance for the Russian Federation	Topic 2.1. Pests of quarantine importance for the Russian Federation.	LC, S
	Topic 2.2. Pathogens of quarantine importance for the Russian Federation	LC, S
	Topic 2.3. Weeds of quarantine importance for the Russian Federation.	LC, S
Module 3: Pests, pathogens and weeds not registered in the territory of the Russian Federation	Topic 3.1. Pests not registered in the territory of the Russian Federation	LC, S
	Topic 3.2. Pathogens not registered in the territory of the Russian Federation	LC, S
	Topic 3.3. Weeds not registered in the territory of the Russian Federation	LC, S
Module 4: Methods of identification, localization and elimination of quarantine objects	Topic 4.1. Methods of detection and diagnosis of quarantine pests, pathogens and weeds	LC, S
	Topic 4.2. Methods of localization and elimination of quarantine facilities	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	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: Interactive complex – Triumph Board interactive whiteboard with Optoma projector
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.	Set of specialized furniture, binocular medical microscope MIKMED-5, microscopic preparations. Technical means: interactive whiteboard
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. *Plant pathology & diseases. URI: https://directory.doabooks.org/handle/20.500.12854/67434 DOI: 10.5772/intechopen.80762 Webshop link: https://www.intechopen.com/books ISBN: 9781789851168, 9781789851151, 9781789846980 Publisher: IntechOpen. Publisher website: https://www.intechopen.com/. Publication date and place: 2020. Imprint: IntechOpen. Classification: Plant reproduction & propagation. Pages: 240.*
2. *Quarantine of plants: a course of lectures: a textbook / compiled by O.B. Kotelnikova. — Kursk: Kursk State Agrarian University, 2022. — 59 p. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/214751*

Additional readings:

1. *Zykin, A.V. English for agricultural universities. Plant protection and quarantine, entomology, phytopathology / A.V. Zykin, N.G. Kovalenko. — St. Petersburg: Lan, 2023. — 144 p. — ISBN 978-5-507-45410-5. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/302420*
2. *Integrated plant protection / T.V. Dolzhenko, L.E. Kolesnikov, A.G. Semenova [et al.]. — 3rd ed., ster. — St. Petersburg: Lan, 2024. — 120 p. — ISBN 978-5-507-47304-5. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/359825*

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 "Znanium": https://znanium.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 Quarantine".

* 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:

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