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

PEST RISK ANALYSIS

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

The discipline consists of 4 sections and 8 topics and is aimed at studying risks, biosafety in solving scientific research tasks of agricultural biotechnology.

The purpose of mastering the discipline is: mastering competencies in the field of risk assessment and biosafety in solving various research tasks of agricultural biotechnology and related patent law issues.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the discipline "Phytosanitary Risk Analysis" 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-1	Able to carry out critical analysis of problem situations based on a systematic approach, develop an action strategy	GC-1.1 Performs search for necessary information, its critical analysis and generalizes the results of the analysis to solve the assigned task; GC-1.3 Develops a strategy for achieving the set goal as a sequence of steps, anticipating the result of each of them and assessing their impact on the external environment of the planned activities and on the relationship between the participants in these activities;
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-4	Able to create models of crop cultivation technologies, plant protection systems, and varieties	PC-4.5 Carries out plant protection activities against harmful organisms; PC-4.6 Develops and improves measures for plant protection against harmful organisms;

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The discipline "Phytosanitary Risk Analysis" 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 "Phytosanitary Risk Analysis".

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-1	Able to carry out critical analysis of problem situations based on a systematic approach, develop an action strategy		Organization of Integrated Plant Protection Systems; Instrumental methods of research; Plant immunity; Biotechnology in Plant Protection; Scientific research work; Scientific and Research Practice; Undergraduate practice/Pre-diploma practice;
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; Undergraduate practice/Pre-diploma practice; Plant Quarantine; Biotechnology in Plant Protection; Organization of Integrated Plant Protection Systems; Plant immunity;
PC-4	Able to create models of crop cultivation technologies, plant protection systems, and varieties		Scientific and Research Practice; Mathematical Modeling and Design; Biological Method of Plant Protection; Organization of Integrated Plant Protection Systems; Plant immunity; Plant Protection in Organic Farming**; Weed biology and management**; 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 "Phytosanitary Risk Analysis" 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
		1
Contact academic hours	*34*	*34*
including:		
Lectures (LC)	0	0
Lab work (LW)	0	0
Seminars (workshops/tutorials) (S)	34	34
Self-studies	*59*	*59*
Evaluation and assessment	*15*	*15*

Type of academic activities		Total academic hours	Semesters/training modules
			1
(exam/passing/failing grade)			
Course workload	academic hours	**108**	**108**
	credits	**3**	**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: The concepts of "Biosafety" and "Biosecurity". The concept of risk monitoring.	Topic 1.1. Biological hazard and safety. Potential biological threats.	S
	Topic 1.2. Biosafety and biosecurity measures in the laboratory (standard operating procedures, primary and secondary barriers).	S
Module 2: Biosafety in agriculture, veterinary medicine and healthcare. Potential risks associated with new technologies.	Topic 2.1. The state of biosafety legislation in the world. Russian legislation in the field of biosafety.	S
	Topic 2.2. Modern problems of genetic safety. Biological safety of natural populations and ecosystems, agrobiocenoses.	S
	Topic 2.3. The most threatened areas of security.	S
Module 3: Biological invasions and biological diversity.	Topic 3.1. Sustainable development	S
	Topic 3.2. Biological introduction and an alien species (an alien species).	S
Module 4: Modern creation and use of intellectual property objects	Topic 4.1. Legal instruments for the distribution of rights to the REED. The advantages of joint ownership and the prerequisites for its application.	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)
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; 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)
Self-studies	A classroom for independent work of students	

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
	(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. Impacts, Monitoring and Management of Forest Pests and Diseases. Publisher: MDPI-Multidisciplinary Digital Publishing Institute. Publisher website: www.mdpi.com/books. Publication date and place: 2020. Classification: Biology, life sciences. Pages: 198.
2. Integrated plant protection in agrophytocenoses: a textbook for universities / V.E. Torikov, O.V. Melnikova, I.V. Sycheva [et al.]; edited by V.E. Torikov. — St. Petersburg: Lan, 2024. — 180 p. — ISBN 978-5-507-48892-6. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/401012

Additional readings:

1. *Fundamentals of plant quarantine: a textbook* / Yu.A. Bezgina, O.V. Sharipova, L.V. Maznitsyna [et al.]. — Stavropol: StGAU, 2023. — 104 p. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/400292
2. *Organization of plant quarantine service: a textbook* / Yu.A. Bezgina, O.V. Sharipova, L.V. Maznitsyna [et al.]. — Stavropol: StGAU, 2023. — 100 p. — Text: electronic // Lan: electronic library system. — URL: https://e.lanbook.com/book/400286

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 "Phytosanitary Risk Analysis".

* 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
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