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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

Approved at the meeting of the Academic Council of RUDN University  
Protocol No. 10  
May 20, 2014  
(date, month, year)

Opened by order of the Rector of RUDN University No. 313  
June 07, 2024  
(date, month, year)

**PROFESSIONAL EDUCATION PROGRAMME OF HIGHER EDUCATION**

Field of Studies/ Speciality:

**35.04.04 Agronomy**

field of studies / speciality code and title

Profile/Specialisation:

**General Agriculture**

higher education programme title

The Educational Programme is developed in compliance with:

**Educational Standard of RUDN University**, approved by Order of the Rector No. 371  
dated May 21, 2021  
(day, month, year)

Level of education:

**master's**

(bachelor's / specialist's / master's – to fill in the required)

Graduate's Qualification:

**Master**

(graduate's qualification in compliance with the order of the Ministry of Education and Science of Russian Federation dated September 12, 2013, No. 1061)

Length of Educational Programme:

**2 years**

(full-time education)

-

(part-time education)

-

(correspondence education)

AGREED by:

Head  
of Educational Programme

E.N. Pakina



(signature)

(day, month, year)

Chairperson  
of Didactic Council

E.N. Pakina

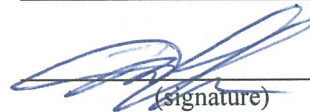


(signature)

(day, month, year)

Head  
of Educational  
Department

E.A. Dovletyarova



(signature)

(day, month, year)

## **1. EDUCATIONAL PROGRAMME GOAL (MISSION)**

The main goal of the program is to ensure high quality training and competitiveness of innovation-oriented specialists using new scientific and laboratory equipment, modern practice bases for priority high-tech sectors of the national economy in the training process based on integration and cooperation with employers and strategic partners.

## **2. EDUCATIONAL PROGRAMME RELEVANCE, SPECIFICITY, AND UNIQUENESS**

The peculiarity of training masters in the direction 35.04.04 "Agronomy" of the specialization " General Agronomy" is that already during their studies in the master's program they have the opportunity to realize themselves in the field of business of innovative technologies.

## **3. LABOUR MARKET NEEDS FOR PERSONNEL TRAINING IN EDUCATIONAL PROGRAMME PROFILE**

Master's degree in the field of study 35.04.03 "Agronomy" specialization "General Agronomy" is preparing for a scientific research type of professional activity.

Specialists in this profession are in demand at enterprises of various forms of ownership in large state, scientific and production associations, small and medium-sized businesses, implementation and consulting structures, including foreign companies.

Further professional activity:

- agricultural holdings of Russian and foreign companies;
- leading Russian and global companies in the development, production and sale of plant protection products;
- experimental stations for plant protection;
- specialized research institutions;
- Federal State Institution "Rosselkhoztsentr" system;
- Customs Service for Phytosanitary Supervision;
- enterprises of the Federal State Budgetary Institution "All-Russian Plant Quarantine Center";
- representative offices of Russian and foreign insurance companies. Graduates of this program have a universal set of knowledge, since the scope of interests includes almost all processes occurring at the specialized enterprise, and the knowledge gained allows solving the following professional tasks:
  - programming of agricultural crop yields for various levels of agricultural technologies;
  - development and implementation of projects for environmentally friendly methods and technologies for the production of high-quality plant products, taking into account the properties of agricultural landscapes and economic efficiency;
  - design of adaptive landscape farming systems for various organizational forms of the agro-industrial complex and their development;
  - providing consultations on innovative technologies in agronomy;
  - collection, processing, analysis and systematization of scientific and technical information, domestic and foreign experience;

- development of experimental methods, mastering new research methods;
- organization, implementation and analysis of experimental results;
- Creation optimization models technologies cultivation agricultural crops, plant protection systems, varieties;
- preparation of scientific and technical reports, reviews and scientific publications based on the results of completed research.

## 5. SPECIAL REQUIREMENTS FOR POTENTIAL APPLICANTS

Potential applicant for the main educational program in the field of training 35.04.04 "Agronomy" specialization "General Agriculture"

/ General Agronomy" must be prepared for activities that require in-depth agricultural, scientific research and pedagogical training and have the following competencies:

- general cultural competencies: the ability to think abstractly, analyze, synthesize; readiness to act in non-standard situations, to bear social and ethical responsibility for decisions made; readiness for self-development, self-realization, and the use of creative potential;
- general professional competencies: readiness to communicate orally and in writing in Russian and foreign languages to solve problems of professional activity; readiness to lead a team in the sphere of their professional activity, tolerantly perceiving social, ethnic, religious and cultural differences; the ability to make organizational and managerial decisions;
- professional competencies in the field of scientific research activities: the ability to generalize and critically evaluate the results obtained by domestic and foreign researchers, identify promising areas, and draw up a research program; the ability to justify the relevance, theoretical and practical significance of the chosen topic of scientific research; the ability to conduct independent research in accordance with the developed program; the ability to present the results of the conducted research to the scientific community in the form of an article or report.

## 6. FEATURES OF EDUCATIONAL PROGRAMME IMPLEMENTATION

6.1. The educational program is implemented with elements of electronic learning/distance educational technologies (electronic courses on the TUIS platform).

6.2. The language of implementation of the educational program is English.

6.3. Program Not provides for education disabled people And persons With limited health capabilities.

6.4. The educational program of higher education is implemented by the Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia named after Patrice Lumumba".

6.5. Information O planned bases conducting educational/industrial practices and research:

Practice	Base for conducting practice
Technological practice (industrial, on-site)	RUDN, JSC Shchyolkovo Agrokhim, LLC "Syngenta", VNIKR, VNII Agrochemistry,

Practice	Base for conducting practice
Research work (R&D, stationary/field)	Federal Research Center "Nemchinovka", Federal Research Center for Vegetable Growing, VILAR, PJSC "PhosAgro"
Pre-graduation practice (industrial, in-patient)	

## 7. CHARACTERISTIC

### PROFESSIONAL ACTIVITIES OF THE GRADUATE OF THE OP

7.1. The area and/or sphere of professional activity of a graduate who has mastered the OP HE, in which he/she can carry out his/her professional activity:

13 Agriculture:

in the field of organization and execution of works on the production of plant products.

7.2. Types of professional activity tasks that a graduate is prepared to solve as part of mastering the educational program of higher education: research, production and technological.

7.3. List of generalized work functions and work functions related to the professional activities of a graduate of the OP VO, in accordance with which the program was developed:

Code and name prof. standard	Generalized labor functions			Labor functions		
	code	Name	qualification level	Name	code	level (sub.) qual.
234 Agronomist	D	Management of plant production	7	Conducting researchworks in the field of agronomy in production conditions	D/03.7	7

## 8. REQUIREMENTS TO THE RESULTS OF MASTERING THE OP HE

8.1. Upon completion of the OP VO, the graduate must have the following universal competencies (UC):

Code and name of the UK	Code and name of the indicator of achievement of competence
UC-1 Able to carry out a critical analysis of problematic situations based on a systems approach, develop an action strategy	UC-1.1 Performs a search for the necessary information, its critical analysis and generalizes the results of the analysis to solve the assigned task
	UC-1.2 Uses a systematic approach to solve assigned tasks
	UC-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 activity and on relationships between participants in this activity
UC-2 Capable of managing a project at all stages of its life cycle	UC-2.1 Develops a project concept within the framework of the identified 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

	UC-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 the project participants
	UC-2.3 Suggests possible ways (algorithms) for implementing the project results into practice (or carries out its implementation)
UC-3 Able to organize and manage the work of a team, developing a team strategy to achieve the set goal	UC-3.1 Develops a cooperation strategy and on its basis on the basis of organizing the work of the team to achieve the set goal
	UC-3.2 Plans team work, distributes tasks and delegates authority to team members, organizes discussion of different ideas and opinions
UC-4 Able to apply modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction.	UC-4.1 Demonstrates the integrative skills necessary for writing, translating and editing various academic texts (abstracts, essays, reviews, articles, etc.)
	UC-4.2 Presents the results of academic and professional activities in various scientific events, including international ones
	UC-4.3 Demonstrates integrative skills, necessary for effective participation in academic and professional discussions
UC-5 Able to analyze and take into account cultural diversity in the process of intercultural interactions	UC-5.1 Demonstrates an understanding of the characteristics of different cultures and nations
	UC-5.2 Builds social interaction, taking into account the general and specific features of different cultures and religions
UC-6 Able to define and implement priorities of one's own activities and ways of improving them based on self-assessment	UC-6.1 Assesses his/her resources and their limits (personal, situational, temporary), uses them optimally to successfully complete the assigned task tasks
	UC-6.2 Plans a professional trajectory taking into account the specifics of both professional and other types of activity and the requirements of the labor market
UC-7 Able to search for the necessary sources of information and data, perceive, analyze, remember and transmit information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the information received to solve problems, evaluate information, its reliability, build logical conclusions based on incoming information and data	UC-7.1 Conducts an assessment of information, its reliability, builds logical conclusions based on incoming information and data
	UC-7.2 Has practical experience in searching, perceiving, storing, analyzing, transmitting information and data using digital tools, algorithms and application programs in order to solve assigned tasks

8.2. Upon completion of the OP VO, the graduate must have the following general professional competencies (GPC):

<b>Code and name of the OPK</b>	<b>Code and name of the indicator of achievement of competence</b>
GPC-1 is capable of solving problems of development of the region	GPC-1.1 Demonstrates knowledge of the basic methods of analyzing the achievements of science and production in agronomy

professional activity and (or) organization based on the analysis of scientific and industrial achievements;	GPC-1.2 Uses methods for solving problems of agronomy development based on the search and analysis of modern achievements of science and production
	GPC-1.3 Uses available technologies, including information and communication technologies, to solve problems professional activity in agronomy
GPC-2 Capable of transmitting professional knowledge taking into account pedagogical methods;	GPC-2.1 Knows modern educational technologies vocational education (vocational training)
	GPC-2.2 Transfers professional knowledge in the field of agronomy, explains current problems and trends in its development, modern production technologies plant products
GPC-3 is capable of using modern methods of solving problems in the development of new technologies in the professional activities;	GPC-3.1 Analyzes methods and ways of solving problems in developing new technologies in agronomy
	GPC-3.2 Uses information resources, scientific achievements and practice in the development of new technologies in agronomy
GPC-4 Capable of conducting scientific research, analyzing results and preparing reporting documents;	GPC-4.1 Analyzes methods and ways of solving research problems
	GPC-4.2 Uses information resources, scientific, experimental and instrumental base for conducting research in agronomy
	GPC-4.3 Formulates the results obtained in the course of solving research problems
GPC-5 Capable of carrying out technical and economic justification of projects in professional activities;	GPC-5.1 Has knowledge of methods of economic analysis and accounting of project indicators in agronomy
	GPC-5.2 Analyzes the main production and economic indicators of the project in agronomy
	GPC-5.3 Develops proposals for increasing project efficiency in agronomy
GPC-6 is capable of managing teams and organizing production processes.	GPC-6.1 Able to work with information systems and databases on personnel management issues
	GPC-6.2 Defines the tasks of the structural personnel divisions based on the goals and strategy of the organization
GPC-7 Able to master the tools for working with large arrays of structured and unstructured information, use modern digital methods of processing, analysis, interpretation and visualization of data in order to solve the tasks of professional and scientific research activities in field of agronomy	GPC-7.1 Has a working toolkit for working with large arrays of structured and unstructured information
	GPC-7.2 Uses modern digital methods of processing, analysis, interpretation and visualization of data in order to solve the assigned tasks

8.3. List of professional competencies (PC) that a graduate who has fully mastered the educational program of higher education must possess:

<b>PC code and name</b>	<b>Code and name of the indicator of achievement of competence</b>
PC-1 Capable of organizing experiments (field experiments) according to the assessment	PC-1.1 Draws up a research program to study the effectiveness of innovative technologies (elements technologies), varieties and hybrids, develops methods

the effectiveness of innovative technologies (elements of technology), varieties and hybrids in production conditions	conducting experiments, mastering new research methods
PC-2 Capable of developing and implementing environmentally friendly methods and technologies for the production of high-quality plant products, taking into account the properties of agricultural landscapes and economic efficiency	PC-2.1 Determines the planned yield of agricultural crops taking into account the available natural and production resources using generally accepted calculation methods
	PC-2.2 Organizes quality control and safety of plant products
	PC-2.3 Justifies specializations and types grown products in an agricultural organization
PC-3 Capable of identifying areas for improving and increasing the efficiency of crop production technologies based on scientific achievements, best practices of domestic and foreign manufacturers	PC-3.1 Identifies promising areas for increasing the efficiency of crop production
	PC-3.2 Carries out operational regulation of the course of production of plant products
PC-4 Capable of creating models of agricultural crop cultivation technologies, plant protection systems, varieties	PC-4.1 Creates models of agricultural crop cultivation technologies, plant protection systems, varieties

**9. COMPETENCE MATRIX**, formed in students during the development of the educational program of higher education "General Agriculture / General Agronomy", in the field of training 35.04.04. Agronomy:

Code	Name of disciplines/modules, forming competencies in students	GENERAL PROFESSIONAL COMPETENCES						
		UC-1	UC-2	UC-3	UC-4	UC-5	UC-6	UC-7
<b>Block 1. Disciplines (modules)</b>								
<b>Mandatory part</b>								
B1.O.01	<b>Basic component</b>							
B1.O.01.01	Russian as a Foreign Language / Russian as a Foreign Language				UC-4.1; UC-4.2; UC-4.3	UC-5.1; UC-5.2		
B1.O.01.02	Information Technology / Information technologies	UC-1.1; UC-1.2						UC-7.1; UC-7.2
<b>B1.O.02</b>	<b>Variable component</b>							
B1.O.02.01	Crop Production / Crop Production	UC-1.3	UC-2.3					
B1.O.02.02	Soil Fertility Management soil fertility	UC-1.1; UC-1.3	UC-2.1					UC-7.2
B1.O.02.03	Mechanization of Crop Production / Mechanization of plant growing		UC-2.1					
B1.O.02.04	Pests and Diseases / Pests and Diseases plants	UC-1.1; UC-1.2						UC-7.1; UC-7.2
B1.O.02.05	Breeding and Seed Production / Selection and seed production							
B1.O.02.06	Plant Protection / Plant Protection							UC-7.1; UC-7.2
B1.O.02.07	Postharvest Management / Postharvest processing	UC-1.2		UC-3.1; UC-3.2				



<b>The part formed by the participants of educational relations</b>								
B1.V.DV.01	<i>Elective disciplines</i>							
B1.V.DV.01.01	Marketing / Marketing	UC-1.3	UC-2.2; UC-2.3	UC-3.1; UC-3.2		UC-5.2		
B1.V.DV.01.02	Management / Management	UC-1.3	UC-2.2; UC-2.3	UC-3.1; UC-3.2		UC-5.2		
<b>Block 2. Practice</b>								
<b>Mandatory part</b>								
B2.O.01	<i>Variable component</i>							
B2.O.01.01(N)	Technological Practice / Technological Practice	UC-1.1; UC-1.2; UC-1.3	UC-2.1; UC-2.2; UC-2.3;				UC-6.1; UC-6.2	
B2.O.02	<i>Basic component</i>							
B2.O.02.01(P)	Scientific Research Work / Scientific Research Work	UC-1.2			UC-4.1; UC-4.2; UC-4.3			UC-7.1; UC-7.2
<b>The part formed by the participants of educational relations</b>								
B2.B.01(Pd)	Undergraduate Practice / Pre-graduation practice	UC-1.1; UC-1.2; UC-1.3	UC-2.1; UC-2.2; UC-2.3		UC-4.1; UC-4.3		UC-6.1; UC-6.2	UC-7.1; UC-7.2
<b>Block 3. State final certification</b>								
B3.01(G)	Preparation for Passing and Passing the State Exam / Preparation for and passing the state exam	UC-1.1; UC-1.2; UC-1.3	UC-2.1; UC-2.2; UC-2.3	UC-3.1; UC-3.2	UC-4.1; UC-4.2; UC-4.3	UC-5.1; UC-5.2	UC-6.1; UC-6.2	UC-7.1; UC-7.2
B3.02(D)	Preparation and Defense of Graduate Qualification Work / Registration, preparation for the defense procedure and defense of the graduation thesis qualification work	UC-1.1; UC-1.2; UC-1.3	UC-2.1; UC-2.2; UC-2.3	UC-3.1; UC-3.2	UC-4.1; UC-4.2; UC-4.3	UC-5.1; UC-5.2	UC-6.1; UC-6.2	UC-7.1; UC-7.2

Code	Name of the disciplines/modules that develop competencies students	GENERAL PROFESSIONAL COMPETENCES						
		GPC-1	GPC-2	GPC-3	GPC-4	GPC-5	GPC-6	GPC-7
<b>Block 1. Disciplines (modules)</b>								
<b>Mandatory part</b>								
B1.O.01	<i>Basic component</i>							
B1.O.01.01	Russian as a Foreign Language / Russian language as a foreigner							
B1.O.01.02	Information Technology / Information technologies	GPC-1.3		GPC-3.2				GPC-7.1 GPC-7.2
<b>B1.O.02</b>	<b>Variable component</b>							
B1.O.02.01	Crop Production / Crop Production	GPC-1.1; GPC-1.3	GPC-2.1; GPC-2.2					
B1.O.02.02	Soil Fertility Management	GPC-1.1; GPC-1.2; GPC-1.3	GPC-2.1; GPC-2.2	GPC-3.1; GPC-3.2				
B1.O.02.03	Mechanization of Crop Production / Mechanization of plant growing					GPC-5.2		
B1.O.02.04	Pests and Diseases / Pests and Diseases plants	GPC-1.2; GPC-1.3						GPC-7.2
B1.O.02.05	Breeding and Seed Production / Selection and seed production				GPC-4.1; GPC-4.2			
B1.O.02.06	Plant Protection / Plant Protection							GPC-7.2
B1.O.02.07	Postharvest Management / Postharvest processing	GPC-1.1; GPC-1.2; GPC-1.3				GPC-5.1; GPC-5.2; GPC-5.3	GPC-6.1; GPC-6.2; GPC-6.3	
<b>The part formed by the participants of educational relations</b>								
B1.V.DV.01	<i>Elective disciplines</i>							
B1.V.DV.01.01	Marketing / Marketing					GPC-5.1; GPC-5.2; GPC-5.3		

B1.V.DV.01.02	Management / Management							GPC-6.1; GPC-6.2; GPC-6.3	
<b>Block 2. Practice</b>									
<b>Mandatory part</b>									
B2.O.01	<i>Variable component</i>								
B2.O.01.01(N)	Technological Practice / Technological practice	GPC-1.2; GPC-1.3		GPC-3.1; GPC-3.2				GPC-6.2	GPC-7.1 GPC-7.2
B2.O.02	<i>Basic component</i>								
B2.O.02.01(P)	Scientific Research Work / Scientific Research Work	GPC-1.1; GPC-1.2; GPC-1.3			GPC-4.1; GPC-4.2; GPC-4.3				GPC-7.1 GPC-7.2
<b>The part formed by the participants of educational relations</b>									
B2.B.01(Pd)	Undergraduate Practice / Pre-graduation practice	GPC-1.1; GPC-1.2; GPC-1.3		GPC-3.1; GPC-3.2	GPC-4.1; GPC-4.2; GPC-4.3				GPC-7.1 GPC-7.2
<b>Block 3. State final certification</b>									
B3.01(G)	Preparation for Passing and Passing the State Exam / Preparation for and passing the state exam	GPC-1.1; GPC-1.2; GPC-1.3	GPC-2.1; GPC-2.2	GPC-3.1; GPC-3.2	GPC-4.1; GPC-4.2; GPC-4.3	GPC-5.1; GPC-5.2; GPC-5.3	GPC-6.1; GPC-6.2; GPC-6.3		GPC-7.1 GPC-7.2
B3.02(D)	Preparation and Defense of Graduate Qualification Work / Registration, preparation for the defense procedure and defense of the graduation thesis qualification work	GPC-1.1; GPC-1.2; GPC-1.3	GPC-2.1; GPC-2.2	GPC-3.1; GPC-3.2	GPC-4.1; GPC-4.2; GPC-4.3	GPC-5.1; GPC-5.2; GPC-5.3	GPC-6.1; GPC-6.2; GPC-6.3		GPC-7.1 GPC-7.2

Code	Name of disciplines/modules that develop students' competencies	PROFESSIONAL COMPETENCES			
		PC-1	PC-2	PC-3	PC-4
<b>Block 1. Disciplines (modules)</b>					
<b>Mandatory part</b>					
B1.O.01	<i>Basic component</i>				
B1.O.01.01	Russian as a Foreign Language / Russian as a Foreign Language				
B1.O.01.02	Information Technology / Information Technology	PC-1.1			
<b>B1.O.02</b>	<b>Variable component</b>				
B1.O.02.01	Crop Production / Crop Production	PC-1.1	PC-2.1; PC-2.2	PC-3.1	PC-4.1
B1.O.02.02	Soil Fertility Management / Soil Fertility Management fertility	PC-1.1			
B1.O.02.03	Mechanization of Crop Production / Mechanization plant growing	PC-1.1			
B1.O.02.04	Pests and Diseases / Pests and Plant Diseases	PC-1.1	PC-2.2		
B1.O.02.05	Breeding and Seed Production / Selection and seed production	PC-1.1	PC-2.3	PC-3.1	PC-4.1
B1.O.02.06	Plant Protection / Plant Protection	PC-1.1	PC-2.2	PC-3.2	PC-4.1
B1.O.02.07	Postharvest Management / Postharvest processing			PC-3.1; PC-3.2	
<b>The part formed by the participants of educational relations</b>					
B1.V.DV.01	<i>Elective disciplines</i>				
B1.V.DV.01.01	Marketing / Marketing				
B1.V.DV.01.02	Management / Management				
<b>Block 2. Practice</b>					
<b>Mandatory part</b>					
B2.O.01	<i>Variable component</i>				
B2.O.01.01(N)	Technological Practice / Technological Practice	PC-1.1	PC-2.1; PC-2.2; PC-2.3	PC-3.1; PC-3.2	

B2.O.02	<b><i>Basic component</i></b>				
B2.O.02.01(P)	Scientific Research Work / Scientific Research Work	PC-1.1	PC-2.3	PC-3.1	PC-4.1
<b>The part formed by the participants of educational relations</b>					
B2.B.01(Pd)	Undergraduate Practice / Pre-graduation practice	PC-1.1			PC-4.1
<b>Block 3. State final certification</b>					
B3.01(G)	Preparation for Passing and Passing the State Exam	PC-1.1	PC-2.1; PC-2.2; PC-2.3	PC-3.1; PC-3.2	PC-4.1
B3.02(D)	Preparation and Defense of Graduate Qualification Work / Preparation, preparation for the defense procedure and defense final qualifying work	PC-1.1	PC-2.1; PC-2.2; PC-2.3	PC-3.1; PC-3.2	PC-4.1