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**Federal State Autonomous Educational Institution of Higher Education "Peoples'
Friendship University of Russia"
Agrarian-Technological Institute**
(name of the main training unit (PMO) - the developer of the EP HE)

INTERNSHIP PROGRAM

Research Practice
(name of practice)

research and development
(type of practice: educational, industrial)

Recommended by ISSS for the direction of training/specialty:

35.03.04 Agronomy
(code and name of the direction of training/specialty)

Practical training of students is carried out within the framework of the implementation of the main professional educational program of higher education (EP HE):

Integrated Plant Protection
(name (profile/specialization) of vo)

1. PURPOSE OF THE INTERNSHIP

The purpose of research practice is to master the professional competencies necessary for the formation of a systematic approach to research work among trainees and to ensure the practical preparation of master's graduates for independent research activities in higher educational institutions and scientific centers.

2. REQUIREMENTS FOR THE RESULTS OF TRAINING BASED ON THE RESULTS OF THE INTERNSHIP

Conducting research practice is aimed at the formation of the following competencies (part of the competencies) among students:

Table 1 – List of competencies formed in students during the internship (learning outcomes based on the results of practice)

Cipher	Competence	Competency Achievement Indicators
UK-1	Able to carry out search, critical analysis of problem situations on the basis of a systematic approach, to develop an action strategy	UK-1.1 Performs the search for the necessary information, its critical analysis and summarizes the results of the analysis to solve the task
		UK-1.2 Uses a systematic approach to solve the tasks
		UK-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 the relationships of the participants in this activity
UK-2	Able to manage the project at all stages of its life cycle	UK-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
		UK-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
		UK-2.3 Offers possible ways (algorithms) of implementation of the project results into practice (or implements it)
UK-3	Able to organize and manage the work of the team, developing a team strategy to achieve the goal	UK-3.1 Develops a cooperation strategy and on its basis organizes the work of the team to achieve the goal
		UK-3.2 Plans teamwork, distributes assignments and delegates authority to team members, organizes discussion of various ideas and opinions

UK-5	Able to analyze and take into account the diversity of cultures in the process of intercultural interaction	UK-5.1 Demonstrates an understanding of the characteristics of different cultures and nations
		UK-5.2 Builds social interaction, taking into account the common and special of different cultures and religions
UK-6	Able to identify and implement the priorities of his own activities and ways to improve it on the basis of self-esteem	UK-6.1 Evaluates its resources and their limits (personal, situational, temporary), optimally uses them for the successful implementation of the assigned task
		UK-6.2 Plans a professional trajectory, taking into account the peculiarities of both professional and other activities and the requirements of the labor market
UK-7	Able to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as with the help of algorithms when working with data received from various sources in order to effectively use the information received to solve problems, to evaluate information, its reliability, to build logical conclusions on the basis of incoming information and data	UK-7.1 Evaluates information, its reliability, builds logical conclusions on the basis of incoming information and data
		UK-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 the tasks
OPK-1	Able to solve the problems of development of the field of professional activity and (or) organization on the basis of analysis of the achievements of science and production	OPK-1.1 Demonstrates knowledge of the main methods of analyzing the achievements of science and production in agronomy
		OPK-1.2 Uses methods of solving problems in the development of agronomy based on the search and analysis of modern achievements of science and production
		OPK-1.3 Applies available technologies, including information and communication technologies, to solve the problems of professional activity in agronomy
OPK-3	Able to use modern methods of problem solving in the development of new technologies in professional activities	OPK-3.1 Analyzes methods and methods of solving problems in the development of new technologies in agronomy
		OPK-3.2 Uses information resources, achievements of science and practice in the development of new technologies in agronomy

OPK-4	Able to conduct research, analyze results and prepare reporting documents	OPK-4.1 Analyzes methods and methods of solving research problems
		OPK-4.2 Uses information resources, scientific, experimental and instrumental base for research in agronomy
		OPK-4.3 Formulates the results obtained in the course of solving research problems
OPK-6	Able to manage teams and organize production processes	OPK-6.1 Able to work with information systems and databases on personnel management issues
		OPK-6.2 Defines the tasks of the personnel of the structural unit, based on the goals and strategy of the organization
		OPK-6.3 Applies methods of managing interpersonal relationships, team building, developing leadership and performance, identifying talents, determining job satisfaction
OPK-7	Able to own 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 research activities in the field of agronomy	OPK-7.1 Owns the tools for working with large arrays of structured and unstructured information
		OPK-7.2 Uses modern digital methods of data processing, analysis, interpretation and visualization in order to solve the tasks
PK-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
		PP-1.2 Conducts information retrieval of knowledge-intensive technologies in biotechnology and genetic engineering using various databases and network resources
PK-2	Able to develop methods of conducting experiments, master new research methods	PP-2.1 Owns a systematic approach in the field of biological and agronomic research
		PC-2.2 Uses basic research methods in plant biology and agronomy

PK-3	Able to organize, conduct and analyze the results of experiments (field experiments)	PK-3.2 Able to plan a study, develop a scheme of experience and a methodology for collecting experimental data
PK-4	Able to create models of crop cultivation technologies, plant protection systems, varieties	PP-4.1 Knows the biological and economic features of agricultural and newly domesticated plants as the basis for the development of technologies for their cultivation
		PK-4.2 Owns modern technologies in the field of biotechnology and genetic engineering
		PC-4.3 Implements the creation of plant protection systems for specific production conditions
		PC-4.4 Has the skills to organize work on the protection of plants adapted to the soil and climatic conditions of the region
		PC-4.5 Carries out work on the protection of plants from harmful objects
		PC-4.6 Develops and improves measures to protect plants from harmful objects
PK-5	Able to prepare scientific and technical reports, reviews and scientific publications based on the results of the research performed	PP-5.1 Draws up a research agenda on the effectiveness of agricultural practices
PK-6	Able to prepare conclusions on the feasibility of introducing into production the studied techniques, varieties and hybrids of agricultural crops based on the analysis of experimental data	PK-6.1 Proficient in the methods of calculating the agronomic, energy and economic efficiency of innovation implementation
		PK-6.2 Able to critically assess the advantages and disadvantages of the studied agricultural techniques and technologies and increase their effectiveness

3. PLACE OF PRACTICE IN THE STRUCTURE OF EP HE

Scientific research practice refers to a mandatory part/part formed by participants in educational relations. (select and leave the desired one)

Within the framework of the EP HE, students also master disciplines and / or other practices that contribute to the achievement of the planned learning outcomes based on the results of the research practice.

Table 2 – List of components of the HE EP that contribute to the achievement of the planned learning outcomes based on the results of the internship

Cipher	Name of competence	Previous disciplines/modules, practices	Subsequent disciplines/modules, practices
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UK-1	Able to carry out search, critical analysis of problem situations on the basis of a systematic approach, to develop an action strategy		
UK-2	Able to manage the project at all stages of its life cycle		
UK-3	Able to organize and manage the work of the team, developing a team strategy to achieve the goal		
UK-5	Able to analyze and take into account the diversity of cultures in the process of intercultural interaction		
UK-6	Able to identify and implement the priorities of his own activities and ways to improve it on the basis of self-esteem		
UK-7	Able to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as with the help of algorithms when working with data received from various sources in order to effectively use the information received to solve problems, to evaluate information, its reliability, to build logical conclusions on the basis of incoming information and data		
OPK-1	Able to solve the problems of development of the field of professional activity and (or) organization on the basis of analysis of the achievements of science and production		
OPK-3	Able to use modern methods of problem solving in the development of new technologies in professional activities		
OPK-4	Able to conduct research, analyze results and prepare reporting documents		
OPK-6	Able to manage teams and organize production processes		
OPK-7	Able to own 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 research activities in the field of agronomy		

PK-1	Able to collect, process, analyze and systematize scientific and technical information, domestic and foreign experience in the field of agronomy		
PK-2	Able to develop methods of conducting experiments, master new research methods		
PK-3	Able to organize, conduct and analyze the results of experiments (field experiments)		
PK-4	Able to create models of crop cultivation technologies, plant protection systems, varieties		
PK-5	Able to prepare scientific and technical reports, reviews and scientific publications based on the results of the research performed		
PK-6	Able to prepare conclusions on the feasibility of introducing into production the studied techniques, varieties and hybrids of agricultural crops based on the analysis of experimental data		

4. SCOPE OF PRACTICE

The total labor intensity of research practice is 15 creditx units (540 academic hours).

5. CONTENTS

Name of the practice section	Contents of the section (topics, types of practical activities)	Laboriousness, aca. hrs.
Section 1. Preparatory phase	Workshop at the department	1 week: 1-2 days
	Acquaintance with the scientific and publishing activities of the Department of Soil Science, General Agriculture and Plant Growing named after V.D. Mukha	
	Study and analysis of scientific sources on the selected topic, determining the degree of its development in the scientific literature;	3-4th days
	Visit to the scientific library of the Academy. Work in the library with EBS, electronic educational resources, book supply maps, etc.	Day 5
	Adjustment of the research plan and the scheme of experience together with the supervisor	Week 2: Day 1
	Selection and acquisition of the necessary materials for laying the experience (seeds, fertilizers, biological preparations), taking into account the available in the farm	Day 2
Section 2. Practical stage	Workplace safety briefing. Inspection of the farm and the place to bookmark the experience	Day 3
	Analysis of economic and research activities of a scientific institution (basic economy)	4-5 days of 2 weeks and all days of 3 and 4 weeks

	Conducting a study (laying experience; conducting related observations, accounts)	
	Testing of the hypothesis put forward	
Section 3. Intermediate attestation	Presentation of the results of scientific research. Collection, processing and analysis of collected materials and primary documentation	The last day of practice
	Writing a report, preparing a presentation	
	Internship interview, verification of the content of the internship report	
	Research Practice Conference	According to the plan
General labor intensity of the practice:		540

6. LOGISTICAL SUPPORT FOR THE PRACTICE

The place of research practice and its specific content are determined by the specifics of the master's program in which the student is studying, and his scientific interests. Depending on this, it can be carried out both at the enterprise (advanced farms of different forms of ownership), in an institution, organization, and in a structural unit of the Academy (the experimental field of the faculty, branches of graduating departments, production departments of the faculty).

7. WAYS TO PRACTICE

Research practice can be carried out both in the structural units of the RUDN University or in organizations of Moscow (stationary), and at bases located outside Moscow (field).

Conducting practice on the basis of an external organization (outside the RUDN University) is carried out on the basis of an appropriate contract, which specifies the terms, place and conditions of practice in the basic organization.

The terms of the internship correspond to the period specified in the calendar training schedule of the OP HE. The terms of the internship can be adjusted in coordination with the board of educational policy and the department of organizing practices and employment of students in RUDN University.

8. EDUCATIONAL, METHODOLOGICAL AND INFORMATION SUPPORT OF PRACTICE

Resources of the information and telecommunication network "Internet":

EBS RUDN University and third-party EBS, to which university students have access on the basis of concluded contracts:

- Electronic library system RUDN University: [site]. URL: <http://lib.rudn.ru/MegaPro/Web>
- EBS "University Library Online": [website]. URL: <http://www.biblioclub.ru/>
- Educational platform "Yurait": [website]. URL: <https://urait.ru/>
- EBS "Lan": [site]. URL: <https://e.lanbook.com/>
- Educational platform "Yurait": [website]. URL: <https://urait.ru/>

Databases and search engines:

- Electronic fund of legal and regulatory-technical information: [site]. URL: <https://docs.cntd.ru/>
- Yandex search engine: [site]. URL: <https://yandex.ru/>
- Search engine "Google": [site]. URL: <https://www.google.com/>

Educational and methodical materials for internship:

Instruction IOT-712-21 on labor protection and fire safety in conducting educational and production (including pre-diploma and research) practices implemented at the Agrarian and Technological Institute (primary instruction).

Methodological instructions for filling out a diary by students and issuing a report on practice.

9. EVALUATION MATERIALS AND POINT-RATING SYSTEM FOR ASSESSING THE LEVEL OF FORMATION OF COMPETENCIES BASED ON THE RESULTS OF INTERNSHIP

Evaluation materials and a point-rating system for assessing the level of formation of competencies (part of competencies) based on the results of the passage of research practice are presented in the application to this program of practice (module).

DEVELOPERS:

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