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**Federal State Autonomous Educational Institution of Higher Education "Peoples'
Friendship University of Russia named after Patrice Lumumba"**

Agrarian and Technological Institute

(name of the main educational unit (MEU) – developer of the program)

Department of Agrobiotechnology

(name of the basic educational unit (BEU) – developer of the program)

WORKING PROGRAM OF THE DISCIPLINE

Methodology of scientific research

(name of discipline/module)

The discipline is mastered within the framework of the implementation of postgraduate programs in the following groups of scientific specialties:

1.5. Biological sciences

4.1. Agronomy, forestry and water management

(code and name of scientific specialty)

1. THE GOAL OF MASTERING THE DISCIPLINE

The objectives of mastering the discipline "Methodology of scientific research" are to improve theoretical knowledge about the methodology and methods of research, as well as to develop the abilities and skills of conducting scientific research and presenting its results.

2. REQUIREMENTS TO THE RESULTS OF MASTERING THE DISCIPLINE

As a result of mastering the discipline "Methodology of scientific research", the postgraduate student must:

- To form holistic theoretical ideas about the general methodology of scientific creativity;
- To become familiar with the general requirements for scientific research, the principles of its planning, organization of implementation and design;
- Develop the ability to independently acquire, with the help of information technology, and use new knowledge and skills in practical activities

3. SCOPE OF THE DISCIPLINE AND TYPES OF STUDY WORK

The total workload of the discipline "Methodology of Scientific Research" is 2 credit units (72 academic hours).

Type of academic work		Total, academic hours	Semester
			1
<i>Contact work</i>		18	18
including:			
Lectures (LC)		12	12
Laboratory work (LW)		-	-
Practical/seminar classes (SZ)		6	6
<i>Independent work of students</i>		36	36
<i>Control (test with assessment)</i>		18	18
General complexity of the discipline	ac. h.	72	72
	credit unit	2	2

4. CONTENT OF THE DISCIPLINE

Name of the discipline section	Section Contents (Topics)	Type of academic work
Fundamentals of scientific research	The essence and principles of scientific research; Classification and characteristics of scientific research methods; Search for scientific information, Internet databases, work with literary sources; Planning and conducting genetic research	LK, SZ
Laboratory and scientific practices	Rules for writing experimental research protocols; Working with measuring instruments; Methods of collecting information.	LZ, SZ
Analysis of scientific research data	Principles of collecting and storing information; Nature of genetic data; Database creation; Statistical methods for processing experimental data from biological studies: statistical hypotheses and their testing, methods for comparing 2 samples, dispersion analysis (single-factor and multifactor), multiple comparison methods, correlation and regression, analysis of qualitative data; Analysis of sequencing data and phylogenetic analysis	LZ, SZ
Publication of scientific research results	General idea of scientific publication; Types of scientific articles; Structure and stylistic features of scientific texts; Search for journals for	LZ, SZ

	publication; Citation of scientific articles; Domestic and foreign scientometric databases	
Finding funding sources and writing a grant application	Types of funding for scientific work; Search for sources of funding; Basic rules for writing a grant application, including an international grant.	LZ, SZ

5. LOGISTIC AND TECHNICAL SUPPORT OF DISCIPLINE

Audience type	Equipping the auditorium	Specialized educational/laboratory equipment, software and materials
Seminar	An auditorium for conducting seminar-type classes, group and individual consultations, ongoing monitoring and midterm assessment, equipped with a set of specialized furniture and technical means for multimedia presentations	No
For independent work of students	A classroom for independent work of students (can be used for conducting seminars and consultations), equipped with a set of specialized furniture and computers with access to the EIS	No

6. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

Main literature:

Pivoev V. M. Philosophy and Methodology of Science [Electronic resource]: textbook / V. M. Pivoev. - 2nd ed. - Moscow: Direct-Media, 2014. - 321 p.

Further reading:

Current issues of improving educational and scientific activities in higher education [Text]. - Kazan: Publishing house of Kazan. University, 2003. - 215 p.

Anufriev A. F. Scientific research: term papers, diploma and dissertations [Text]: textbook. - M.: Os-89, 2004. - 111 p.

Kleandrov M. I. Candidate's dissertation of a lawyer: the first steps of the researcher [Text] / M. I. Kleandrov. - 2nd ed., revised and enlarged. - M.: Academic Law University, 2004. - 191 p.
Resources of the information and telecommunications network "Internet":

RUDN University Electronic Library System and third-party electronic library systems to which university students have access on the basis of concluded agreements:

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

Databases and search engines:

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

Educational and methodological materials for independent work of students in mastering a discipline/module:

A course of lectures on the subject "Methodology of scientific research".

7. EVALUATION MATERIALS AND SCORE-RATING SYSTEM FOR ASSESSING THE LEVEL OF DEVELOPMENT OF COMPETENCES IN THE DISCIPLINE

The assessment materials and the point-rating system for assessing the mastery of the discipline are presented in the TUIS.

DEVELOPERS:

Professor of the Department of Agrobiotechnology

E. N. Pakina

HEAD OF THE BUP

Director of the Agrobiotechnological Department

E. N. Pakina