

Экологический факультет

Принято Ученым советом  
Экологического факультета  
от «20» апреля 2016 г.  
протокол № 8

Утверждаю  
проректор по учебной работе  
А.П. Ефремов  
20\_\_ г.



Основная профессиональная образовательная программа  
высшего образования

Направление подготовки

05.06.01 НАУКИ О ЗЕМЛЕ

в соответствии с перечнем, утвержденным приказом Минобрнауки России от 12.09.2013г. № 1061.

Программа разработана в соответствии с требованиями ОС ВО РУДН, утвержденным приказом ректора от 26.02.2015 г. № 96

Квалификация выпускника: Исследователь. Преподаватель-исследователь

Направленность программы (профиль, специализация):

**Ecology: Modern environmental studies**  
(Экология: современные исследования окружающей среды)

Нормативный срок освоения программы 3 года  
Форма обучения очная

Сведения об особенностях реализации основной образовательной программы:  
реализуется на английском языке

Согласовано:  
Директор направления  
Н.А. Черных

Согласовано:  
Председатель МССН  
Н.А. Черных

Согласовано:  
Декан факультета  
Н.А. Черных

  
\_\_\_\_\_ 2016 г.

  
\_\_\_\_\_ 2016 г.

  
\_\_\_\_\_ 2016 г.

Educational program of higher education for the training of highly qualified personnel (postgraduate study) in the field of training 05.06.01 "Earth Sciences" (hereinafter referred to as "EP HE") is a complex of the main characteristics of education (volume, content, planned results), developed and approved by the Federal State Autonomous Educational institution of higher education "Peoples' Friendship University of Russia" to the needs of the all-Russian and regional labor market on the basis of the federal state education component of the standard of higher education in the direction of training, approved by the Ministry of Education and Science of the Russian Federation of July 30, 2014 N 870

EP HE regulates the objectives, expected results, content, conditions and technologies of the educational process, the quality assessment of training of graduates in this area of training and includes: Competence model of the graduate curriculum, working programs of training courses, subjects, disciplines (modules), methodological recommendations on the organization of independent work of post-graduate programs and funds assessment tools intermediate and final certification of graduate students and other materials to ensure the quality of Application of students, as well as programs of educational and industrial practice and training materials to ensure the implementation of appropriate educational technology.

### **1.1. Objective of the BEP postgraduate course in the direction 05.06.01 Earth sciences**

The purpose of the Basic Postgraduate Education Program in the direction 05.06.01 of the Earth Science is the formation of the necessary knowledge, skills, experience, skills for the professional activity and preparation for the protection of scientific and qualification work for the candidate's degree; As well as the creation of training conditions for the acquisition of a high level of theoretical and professional training, knowledge of general concepts and methodological issues in the field of earth sciences, a deep understanding of the basic scientific and pedagogical problems and the ability to apply the acquired knowledge to solve research and applied problems in accordance with BEP HE on This direction of training with further satisfaction of the needs of society and the state in qualified specialists with higher education; The formation of a civil position among students. The EP is focused on the preparation of highly relevant research teachers, taking into account the need to update research staff, further developing the scientific orientation of the university and increasing the international scientific rating of the organization.

### **1.2. Basic information Terms of development of the BEP postgraduate course in the direction 05.06.01 Earth sciences in accordance with FSES HE**

The course in full-time education, including the holidays, provided after passing the state final certification, regardless of the educational technologies used, is 3 years. The term of BEP development in the correspondence form of training, regardless of the applied educational technologies, is increased not less than 6 months and not more than 1 year (at the discretion of the organization) as compared to the time of getting an education in full-time education. The period of mastering the BEP for training according to the individual curriculum, regardless of the form of training, is established by the organization independently, but not more than the time limit for obtaining the education established for the relevant form of training. When training according to the individual plan of persons with disabilities, the organization has the right to extend the term for not more than one year in

comparison with the period established for the relevant form of training, **Total Scope 180 credits.**

### **1.3. Characteristics of professional activity**

The basic educational program for the training of highly qualified personnel (postgraduate study) in the direction of training 05.06.01 "Earth sciences"

#### **1.4 Types of professional activity**

- 1) research activities in the field of Earth sciences;
- 2) teaching activities on higher education educational programs. Form of implementation: full-time and part-time.

**1.2.2 Место реализации ОП – Экологический факультет РУДН и Инженерная академия РУДН.**

**1.3. Place of implementation of the EP - Ecological faculty of PFUR and PFUR Engineering Academy.**

### **1.4 The need for a labor market in graduates of this EP**

Design, survey, research, production consulting, expert departments and departments, bureaus and centers, companies, institutes in the field of earth sciences, ecology, nature management, geology;

General educational organizations, educational organizations, educational organizations of higher education.

The labor markets for which the program is oriented: Science / Education, Consulting, Medicine / Pharmaceuticals, Raw materials production. Industry, large, small and medium-sized business, Energy, Construction, Chemistry and Biology, Environmental Management, Recycling, Design, Municipal and State Administration, Academic Institutes.

### **1.5. Requirements for the applicant:**

Persons with a master's or specialist's degree and wishing to master this educational program of postgraduate study are credited according to the results of entrance examinations, the program of which has been developed by the organization.

### **1.6. Characteristics of the professional activities of the graduate of the "Earth Sciences"**

#### **1.6.1. Area of professional activity**

The field of professional activity of graduates who have mastered the post-graduate program includes the solution of problems requiring the application of fundamental and applied knowledge in the field of Earth Sciences.

#### **1.6.2. Object of professional activity**

The objects of professional activity of graduates who have mastered the post-graduate program are:

- Earth and its main geospheres - lithosphere, hydrosphere, atmosphere, biosphere, their composition, structure, evolution and properties; Geophysical fields, deposits of solid and liquid minerals;

- natural, natural and economic, anthropogenic, industrial, recreational, social, territorial systems and structures at the global, national, regional, local levels, their research, monitoring of the state and development forecasts;
- search, study and exploitation of mineral deposits; Nature management;
- geoinformation systems; Territorial planning, design and forecasting; - ecological examination of all forms of economic activity; - education and public education.

### **1.6.3. Types of professional activity, the graduates are preparing:**

Research activities in the field of Earth sciences;

Teaching activities on higher education educational programs.

The postgraduate program is aimed at mastering all types of professional activity, to which a graduate is preparing.

### **1.6.4. The tasks of professional activity**

#### **1.6.4.1 Teaching (Teacher):**

- Teaching (pedagogical activity) in the programs of bachelor's, specialist, magistracy, additional educational programs in the relevant area;
- development of educational and methodological support for relevant educational programs;
- participation in vocational guidance of applicants entering postgraduate study;
- scientific management in the preparation of students (graduate students, trainees) articles for publication, course work, final qualification work.
- professional support of assistants and teachers

#### **1.6.4.2. Research Activities (Research Instructor)**

- organization and implementation of scientific activities,
- implementation of results;
- organization, management and implementation of scientific projects;
- monitor the results of research activities;
- participation in the work of scientific teams;
- ensuring the functioning of the quality management system;
- preparation of justified proposals for sending applications for participation in investment competitions for scientific activities;
- implementation of scientific guidance of students, young scientists;
- compliance with information security requirements in professional activities;
- effective work with colleagues and management;
- the transfer of experience and knowledge to less experienced scientists and representatives of the nonacademic community;
- organization and control of the effective use of data from external sources, as well as data obtained during the implementation of scientific (scientific and technical) projects;
- execution of individual research assignments;
- conduct complex scientific research in the framework of projects being implemented;
- interaction with other units of the organization;
  - organization of practical use of the results of scientific (scientific, technical, experimental) developments (projects), including publications;
- Implementation of the changes necessary to improve the effectiveness of the scientific activities of the unit;

- use of modern information systems, including scientometric, information, patent and other databases and knowledge, including corporate ones in the implementation of project assignments and scientific research;
- compliance with the requirements of safety of conditions and labor protection, environmental safety, including in the implementation of scientific research.

### **1.7. Requirements for the results of mastering postgraduate programs**

The program is aimed at training highly qualified scientific and scientific-pedagogical personnel, forming and developing their competencies in accordance with the professional standard; The final original scientific research, contributing to the creation, expansion and development of scientific knowledge.

As a result of mastering the postgraduate study program, the graduate should form:

Basic competencies that do not depend on the specific area of training;

General professional competence, determined by the direction of training;

Professional competencies determined by the direction (profile) of the postgraduate program in the framework of the direction of training (hereinafter - the focus of the program).

#### **1.7.1 A graduate who has mastered the postgraduate program should have the following basic competencies:**

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- The ability to critically analyze and evaluate current scientific achievements, generate new ideas in solving research and practical problems, including in interdisciplinary areas BC 1 x (YK-1);
- The ability to design and carry out complex studies, including interdisciplinary, on the basis of an integral systematic scientific worldview using knowledge in the field of history and the philosophy of science BC 2;
- Willingness to participate in the work of Russian and international research teams in solving scientific and educational problems BC 3
- readiness to use modern methods and technologies of scientific communication in the state and foreign languages, including readiness for communication in oral and written forms in Russian and foreign languages for solving problems of professional activity, possession of foreign language communicative competence in the official business, academic, scientific, social and cultural, everyday-household spheres of foreign language communication (BK-4)
- Ability to plan and solve the problems of their own professional and personal development BC 5

#### **1.7. A graduate who has mastered the post-graduate program should have the following general professional competences:**

The ability to independently carry out research activities in the relevant professional field using modern research methods and information and communication technologies (GPC-1);  
Readiness for teaching on the main educational programs of higher education (GPC-2).

#### **1.7.3 A graduate who has mastered the post-graduate program should have the following professional competences:**

<b>PC-1</b>	Own modern scientific-subject area of knowledge in the direction of the program and be able to use it for scientific, practical and pedagogical purposes;
<b>PC-2</b>	Be able to diagnose problems of nature protection, assess the impact of planned facilities or other forms of economic activity and develop

	practical recommendations for nature protection and sustainable development.
<b>PC-3</b>	Be able to analyze and assess the impact of the environment on human health and life;
<b>PC-4</b>	Be able to organize and manage research, research and production, expert-analytical work and pedagogical activities using advanced knowledge in the field of training.

## Матрица компетенций

		Универсальные компетенции				
Наименований дисциплин (модулей) в соответствии с учебным планом		способностью к критическому анализу и оценке современных научных достижений, генерированию новых идей при решении исследовательских и практических задач, в том числе в междисциплинарных областях (УК-1)	способностью проектировать и осуществлять комплексные исследования, в том числе междисциплинарные, на основе целостного системного научного мировоззрения с использованием знаний в области истории и философии науки (УК-2)	готовностью участвовать в работе российских и международных исследовательских коллективов по решению научных и научно-образовательных задач (УК3)	готовностью использовать современные методы и технологии научной коммуникации на государственном и иностранном языках, в том числе готовностью к коммуникации в устной и письменной формах на русском и иностранном языках для решения задач профессиональной деятельности, владение иноязычной коммуникативной компетенцией в официально-деловой, учебно-профессиональной, научной, социокультурной, повседневно-бытовой сферах иноязычного общения (УК-4)	способностью планировать и решать задачи собственного профессионального и личностного развития (УК-5)
Блок 1	Иностранный язык				+	
	История и философия науки	+	+			
	Методология научных исследований	+	+	+		+
	Педагогика высшей школы			+		
	Нормирование воздействия на окружающую среду	+		+	+	

	Сертификация продукции по международным экологическим требованиям environmental standards			+	+	
	Экология человека и гигиена окружающей среды	+	+	+		+
	Обращение с отходами	+	+			+
	Русский язык как иностранный				+	
	Английский язык для академических целей				+	
Блок 2.	Практика педагогическая			+		
	Практика научно-исследовательская	+	+	+	+	+
Блок 3	Научные исследования	+	+	+		+



Общепрофессиональные компетенции

	Наименований дисциплин (модулей) в соответствии с учебным планом	способностью самостоятельно осуществлять научно-исследовательскую деятельность в соответствующей профессиональной области с использованием современных методов исследования и информационно коммуникационных технологий (ОПК-1)	готовностью к преподавательской деятельности по основным образовательным программам высшего образования (ОПК-2)
Блок 1	Иностранный язык		
	История и философия науки	+	
	Методология научных исследований	+	+
	Педагогика высшей школы		
	Нормирование воздействия на окружающую среду	+	+
	Сертификация продукции по международным экологическим требованиям environmental standards	+	+
	Экология человека и гигиена окружающей среды	+	+
	Обращение с отходами	+	
	Русский язык как иностранный	+	+
	Английский язык для академических целей	+	+
Блок 2	Практика педагогическая	+	+
	Практика научно-исследовательская	+	
Блок 3	Научные исследования	+	

	Наименований дисциплин (модулей) в соответствии с учебным планом	Профессиональные компетенции			
		(ПК-1) Владеть современной научно предметной областью знаний по направленности программы и уметь использовать её в научных, практических и педагогических целях	(ПК-2) Уметь диагностировать проблемы охраны природы, проводить оценку воздействия планируемых сооружений или иных форм хозяйственной деятельности и разрабатывать практические рекомендации по охране природы и обеспечению устойчивого развития	(ПК-3) Уметь проводить анализ и оценку воздействия окружающей среды на здоровье и жизнедеятельность человека	(ПК-4) Уметь осуществлять организацию и управление научно-исследовательскими, научно-производственными, экспертно-аналитическими работами и педагогической деятельностью с использованием углубленных знаний в области направления подготовки
Блок 1	Иностранный язык	+			
	История и философия науки				+
	Методология научных исследований				
	Педагогика высшей школы				+
	Нормирование воздействия на окружающую среду		+		+
	Сертификация продукции по международным экологическим требованиям environmental standards	+			+
	Экология человека и гигиена окружающей среды		+	+	
	Обращение с отходами		+		+
	Русский язык как иностранный	+			
	Английский язык для академических целей	+			
Блок 2.	Практика педагогическая				+
	Практика научно-исследовательская	+	+	+	+
Блок 3	Научные исследования	+	+	+	+