

Recommended ISSC
Peoples' Friendship University of Russia, RUDN University

Ecology Faculty

PROGRAM RESEARCH PRACTICE

Name practice
Scientific and research

It recommended for areas of training / speciality
direction 05.04.06 Ecology and Nature management

specialization «Economics of natural resources management»
(Master's Degree Program)

Qualification of the graduate
Master

1. The objectives of the research practices:

- Formation of common cultural, of general and professional competences;
- Consolidation of the skills of independent research in the field of ecology and nature.

2. Objectives of research practices:

- Planning of research work;
- Use of knowledge of basic and applied sections of special disciplines of the program in the research work;
- Abstracting scientific papers and preparation of analytical reviews of data accumulated in the world of science and production activities;
- Collection and analysis of materials needed to complete the master's thesis;
- The development of scientific research methods, processing and interpretation of environmental information.

3. Place the research practices in the structure OP IN.

Practice is continuously focused on the acquisition of professional skills and experience of professional activity; performing research and writing a thesis. For the practical training students need to acquire knowledge, to acquire the necessary skills, to master modern methods and techniques, to form a certain competence in the disciplines of basic and variable parts of the curriculum.

4. Forms of research practices are defined in accordance with the direction of the research and the needs of scientific research. It can be a field, laboratory, factory, archival, management and other forms of research practices.

5. Time and place of the research practice. The venue of research practice are:

- the design, development, research, production, marketing, consulting, economic, legal, educational and expert divisions, departments, bureaus, centers, firms, companies, institutions;
- Federal and regional nature conservation and environmental authorities (Ministry of Natural Resources and other environmental authorities and institutions);
- Federal and regional offices of the Ministry of Regional Development, the Ministry of Emergency Situations, Ministry of Economic Development and Trade of the Russian Federation, Federal Agency for Construction and Housing and Communal Services, Ministry of Health and Social Development, Ministry of Culture and Mass Communications of the Russian Federation, Ministry of Education and science, the Ministry of agriculture of the Russian Federation and their subordinate federal services and agencies, as well as the Federal service for Hydrometeorology and Environmental monitoring, the Federal Atomic energy agency, the Federal agency for Tourism, the Federal service of the Russian security and other departments and agencies;
- authorities and management of the RF subjects and municipalities; academic and institutional research organizations; educational organizations of secondary, secondary vocational and higher education, and public awareness; media and communication; social organizations and foundations; representation of foreign companies.

The practice is carried out off-grid training sessions and is continuous. The first master's course for practical training fully allocated days from June 20 to July 17 and in the second year - from February 07 to 17 March.

6. Competence learning generated by the passage of the research practices: ■

General cultural competence (GC):

- readiness for self-development, self-realization, the use of creativity (GC-3); ■

General professional competence (GP):

- possession of knowledge of the philosophical concepts of natural science and the basics of the methodology of scientific knowledge in the study of various levels of organization of matter, space and time (GP-1);

- readiness for independent research work and the work of the scientific team, the ability to generate new ideas (creativity) (GP-6); ■ *Professional competence (PC): - Research activity:*

- the ability to formulate problems, objectives and methods of scientific research; obtain new reliable facts based on observations, experiments, scientific analysis of empirical data; abstracted research papers, prepare analytical reviews of data accumulated in the world of science and production activities; to generalize the results obtained in the context of previously accumulated knowledge in science; formulate conclusions and practical recommendations based on representative and original research results (PC-1);

- the ability to creatively use in scientific and industrial-technological activity the knowledge of fundamental and applied sections special graduate program disciplines (PC-2);

- Knowledge of the basics of design, expert-analytical activities and perform research using modern approaches and methods, apparatus, and computer systems (PC-3);

- the ability to use modern methods of processing and interpretation of environmental information for scientific and industrial research (PC-4); - *Design and production activities:*

- the ability to develop standard environmental protection measures; assess the impact of the planned construction or other forms of economic activity on the environment and human health (PC-5);

- the ability to diagnose problems of environmental protection, to develop practical recommendations for its conservation and sustainable development (PC-6);

- the ability to use the normative documents regulating the organization of production and environmental technology works; methodically competently to develop an action plan for environmental auditing, monitoring compliance with environmental requirements, environmental management of production processes (PC-7); - *Control and expert activities:*

- the ability to carry out environmental impact assessment of various types of project tasks, to carry out an environmental audit of an object and develop recommendations for the conservation of the natural environment (PC-8);

- *Organizational and managerial activities:*

- the ability to carry out the organization and management of research and scientific production and expert-analytical work with in-depth knowledge in the field of environmental management (PC-9);

- *Pedagogical activities:*

possession of theoretical knowledge and practical skills for teaching in educational institutions; the ability to competently carry out educational and methodical planning activities of environmental education and education for sustainable development to meet modern environmental and natural resource problems (PC-10).

7. Structure and content of the research practice.

The complexity of the practice is 54 credit units or 1944 hours, of which in the first semester - 9 credits (324 hours), during the second semester - 15 credits (540 hours), in the third - 9 credits (324 hours) and in the fourth - 21 credit unit (756 hours).

№	Sections (steps) of practice	Types of research work, in practice, including independent work of students, and labor (in hours)	Forms monitoring	
1	2	3	4	
5				
<i>The first semester, 9 credit units (324 hours)</i>				
1	Preparatory	Safety Briefing	6	Conversation
2	Theoretical	Introductory lectures	12	Abstract
		Referencing scientific papers and preparation of the analytical review of data accumulated in the world of science and production	24	Report
		The study regulations governing the organization of production and processing of environmental work in the organizations, institutions, enterprises	62	The conversation, report
3	Research and Practice	Introduction to the organizational structure of the organization, institution, enterprise	12	Report
		Analysis of the environmental programs of organizations, institutions, businesses	62	Analytical Review
4	Diagnostic	Identification of environmental aspects and impacts of organizations, institutions, businesses, identifying ecological and environmental problems, the analysis of experience and so on.	62	Analytical Review
5	Engineering Design	Development of practical recommendations for improving the environmental performance of organizations, enterprises, institutions	62	Program
6	Final	Preparation of the final report and its protection	22	Final report
<i>The second semester of 15 credits (540 hours)</i>				
1	Preparatory	Safety Briefing	6	Conversation
		Introductory lectures	4	Conversation
2	Theoretical	Lectures	6	Abstract
		Referencing scientific papers and preparation of the analytical review of data accumulated in the world of science and production	30	Analytical Review
		The study of the legal documentation	40	Analytical Review
3	Preliminary design	planning experiment	46	Analytical Review
4	Experimental	Experiment	16	Analytical Review
		Getting the initial environmental information	64	Analytical Review
		Primary data processing	48	Analytical Review
5	Analytical	The use of modern techniques and methods of processing and interpretation of environmental information for scientific and industrial research	64	Analytical Review

		Analysis and examination of materials research	64	Analytical Review
6	Diagnostic	Diagnosis of the theoretical and practical conclusions	40	Analytical Review
1	2	3	4	5
7	Engineering Design	Development of standard environmental protection measures	30	Analytical Review
		Design of managerial, technical, logical and other decisions to ensure and improve the quality of	30	Analytical Review
		Drawing on practical environmental guidelines and sustainable development	30	Analytical Review
8	Report	Preparation of the final report and its protection	22	Final report
<i>Third semester, 9 credits (324 hours)</i>				
1	Preparatory Theoretical	Introductory lecture	2	Abstract
		Safety Briefing	4	Conversation
2	Research and Practice	Lectures	12	Abstract
		Referencing scientific papers and preparation of the analytical review of data accumulated in the global scientific and industrial activity: the deepening and expansion of already existing material	24	Analytical Review
		The study regulations governing the organization of production and processing of environmental work in the organizations, institutions, enterprises: clarification	62	Conversation, report
3	Diagnostic	Introduction to the organizational structure of the organization, institution, enterprise: clarification and an expanded reference	12	Analytical Review
		Analysis of environmental programs and activities of organizations (institutions, enterprises) and their performance over time	62	Analytical Review
4	Engineering Design	Identification and specification of environmental aspects and impacts of organizations, institutions, businesses, identifying ecological and environmental problems, the analysis of experience and so	62	Analytical Review
5	Final	Development of practical recommendations for improving the environmental performance of organizations, enterprises, institutions, implementation of the submissions received	62	Program
6	Preparatory	Preparation of the final report and its protection	22	Final report
<i>The fourth semester, 21 credit unit (756 hours)</i>				
1	Preparatory	Safety Briefing	2	Conversation
		Introductory lecture	8	Conversation
2	Theoretical	Lectures	6	Abstract

		Referencing scientific papers and preparation of the analytical review of data accumulated in the world of science and production activities: Update	50	Report and the first head of the master's thesis
		Study of regulatory documentation: specification and analysis	60	Report and the first head of the master's thesis
3	Preliminary design	Experimental Design and description of the study methods	66	Report and the second head of the master's thesis
1	2	3	4	5
4	Experimental	Production experiment	34	Analytical Review
		Refinement and obtaining initial environmental information	74	Analytical Review
		Initial processing of the environmental data	68	Analytical Review
5	Analytical	The use of modern techniques and methods of processing and interpretation of environmental information for scientific and industrial research	84	Analytical Review
		Analysis and examination of materials research	84	Analytical Review
6	Diagnostic	Diagnosis of the theoretical and practical conclusions, the wording of the provisions of the protected	60	Report and the third head of the master's thesis
7	Engineering Design	Development of standard environmental protection measures	40	Analytical Review
		Design of managerial, technical, logical and other decisions to ensure and improve the quality of	40	Analytical Review
		Drawing on practical environmental guidelines and sustainable development	40	Analytical Review
8	Final	Preparation of the final report and its protection	40	Final report

8. Education, research and scientific production technology used in research

practice:

- a systematic approach in which an organization (company, institution), where the research practice, is considered as a set of interrelated and mutually complementary components associated with each other and with the environment;
- an integrated approach, which takes into account technical, economic, organizational, financial, social, political, cultural, ecological and environmental aspects of the organization (enterprise, institution), etc
- a dynamic approach in which the organization (enterprise, institution) is considered in the dialectical development, to conduct a retrospective analysis over the last few years;
- situational approach in which the suitability of the various methods is determined in accordance with the specific situation;
- integrated approach, focused on research, development and practical implementation

of effective and promising developments in the activities of organizations (companies, institutions).

9. Educational and methodical maintenance of independent work of the students during the passage of research practices:

1. Learning, teaching, methodical, scientific, legal literature and summaries of theoretical studies on previously mastered core subjects;
2. Normative documents regulating the activities in the area chosen for the study;
3. Teaching materials, determining the order of transmission and maintenance practices;
4. Reporting forms for the various activities of the organization (enterprise, institution);
5. Internet resources, electronic library.

10. The educational-methodical and informational support of research and development practice:

- a) primary literature: according to the research topic;
- b) further reading: According to the research topic;
- c) software and Internet resources: <http://lib.rudn.ru/>; <http://www.nbmgu.ru>; <http://elibrary.ru> и др.

11. Logistical support research practices depends on the venue of the practice. Be sure to include the availability of laboratories, specially equipped classrooms, equipment, areas for research (nature reserves, national parks, landfills, dumps, industrial premises, technology and so forth), Household premises, corresponding to sanitary and fire standards, requirements for conducting safety educational, scientific, industrial and research projects.

12. The forms of interim assessment (based on practice). Interim Certification involves conversations with undergraduates, verification and discussion of their abstracts and analytical reports prepared in accordance with the job. At the end of each semester, undergraduate reports on the work done, hands and protects its final report.

13. Fund assessment tools for interim assessment of students on research practice.

Estimated funding for the interim and final evaluation of students on research practice

№	Sections (steps) of practice, formed competence	Types of research work, in practice, including independent work of students, and labor	Balls	Control forms
1	2	3	4	5
<i>The first semester, 9 credit units (324 hours)</i>				
1	Theoretical GC-3, GP-1, PC-1	Introductory lectures Referencing scientific papers and preparation of the analytical review of data accumulated in the world of science and production activities	3 12	Abstract Report

		The study regulations governing the organization of production and processing of environmental work in the organizations, institutions, enterprises	12	The conversation, report
2	Research and Practice GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Introduction to the organizational structure of the organization, institution, enterprise	12	Report
		Analysis of the environmental programs of organizations, institutions, businesses	12	Analytical Review
3	Diagnostic PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Identification of environmental aspects and impacts of organizations, institutions, businesses, identifying ecological and environmental problems, the analysis of experience and so on.	12	Analytical Review
4	Engineering Design PC-1, 3, 4, 5, 6, 7, 8, 9, 10	Development of practical recommendations for improving the environmental performance of organizations, enterprises, institutions	12	Program
5	Final	Preparation of the final report and its protection	25	Final report
<i>Final score:</i>			100	
<i>The second semester of 15 credits (540 hours)</i>				

1	2	3	4	5
1	Theoretical GC-3, GP-1, PC-1	Lectures	4	Abstract
		Referencing scientific papers and preparation of the analytical review of data accumulated in the world of science and production activities	6	Analytical Review
		The study of the legal documentation	6	Analytical Review
2	Preliminary design GC-3, GP-6, PC-2, 3, 4,	planning experiment	6	Analytical Review
3	Experimental GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Experiment	6	Analytical Review
		Getting the initial environmental information	6	Analytical Review
		Primary data processing	6	Analytical Review
4	Analytical GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	The use of modern techniques and methods of processing and interpretation of environmental information for scientific and industrial research	6	Analytical Review
		Analysis and examination of materials research	6	Analytical Review
5	Diagnostic PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Diagnosis of the theoretical and practical conclusions	6	Analytical Review
6	Engineering Design PC-2, 3, 4, 5, 6, 7, 8, 9,	Development of standard environmental protection measures	6	Analytical Review

	10	Design of managerial, technical, logical and other decisions to ensure and improve the quality of	6	Analytical Review
		Drawing on practical environmental guidelines and sustainable development	6	Analytical Review
7	Report	Preparation of the final report and its protection	24	Final report
			<i>Final score: 100</i>	
<i>Third semester, 9 credits (324 hours)</i>				
1	Theoretical GC-3, GP-1, PC-1	Lectures	4	Abstract
		Referencing scientific papers and preparation of the analytical review of data accumulated in the global scientific and industrial activity: the deepening and expansion of already existing material	12	Analytical Review
		The study regulations governing the organization of production and processing of environmental work in the organizations, institutions, enterprises: clarification	12	Conversation, report
2	Research and Practice GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Introduction to the organizational structure of the organization, institution, enterprise: clarification and an expanded reference	12	Analytical Review
		Analysis of environmental programs and activities of organizations (institutions, enterprises) and their performance over time	12	Analytical Review
1	2	3	4	5
3	Diagnostic PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Identification and specification of environmental aspects and impacts of organizations, institutions, businesses, identifying ecological and environmental problems, the analysis of experience and so on.	12	Analytical Review
4	Engineering Design PC-1, 3, 4, 5, 6, 7, 8, 9, 10	Development of practical recommendations for improving the environmental performance of organizations, enterprises, institutions, implementation of the submissions received	12	Program
5	Final	Preparation of the final report and its protection	24	Final report
			<i>Final score: 100</i>	
<i>The fourth semester, 21 credit unit (756 hours)</i>				
1	Theoretical GC-3, GP-1, PC-1	Lectures	4	Abstract
		Referencing scientific papers and preparation of the analytical review of data accumulated in the world of science and production activities: Update	6	Report and the first head of the master's thesis
		Study of regulatory documentation: specification and analysis	6	Report and the first head of the master's thesis

2	Preliminary design GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Experimental Design and description of the study methods	6	Report and the second head of the master's thesis
3	Experimental GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Production experiment	6	Analytical Review
		Refinement and obtaining initial environmental information	6	Analytical Review
		Initial processing of the environmental data	6	Analytical Review
4	Analytical GC-3, GP-6, PC-2, 3, 4, 5, 6, 7, 8, 9, 10	The use of modern techniques and methods of processing and interpretation of environmental information for scientific and industrial research	6	Analytical Review
		Analysis and examination of materials research	6	Analytical Review
5	Diagnostic PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Diagnosis of the theoretical and practical conclusions, the wording of the provisions of the protected	6	Report and the third head of the master's thesis
6	Engineering Design PC-2, 3, 4, 5, 6, 7, 8, 9, 10	Development of standard environmental protection measures	6	Analytical Review
		Design of managerial, technical, logical and other decisions to ensure and improve the quality of	6	Analytical Review
		Drawing on practical environmental guidelines and sustainable development	6	Analytical Review
7	Report	Preparation of the final report and its protection	24	Final report
			<i>Final score: 100</i>	

The program is in accordance with the requirements of higher education at the University standard.