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**Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University**

Institute of Environmental Engineering

educational division (faculty/institute/academy) as higher education programme developer

Approved at the meeting of the Academic Council of RUDN University

Opened by order of the Rector of RUDN University No. 258

Protocol No. 8

April 11, 2022

(month, date, year)

April, 25, 2022

(month, date, year)

PROFESSIONAL EDUCATION PROGRAMME OF HIGHER EDUCATION

Field of Studies/ Speciality:

05.04.06 Ecology and Nature Management

field of studies / speciality code and title

Profile/Specialisation:

Environmental Management

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

(month, day, 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)

Information about the specific features of the programme: it is implemented in English in the network cooperation (double degree programmes, one education field) with Shandong University.

AGREED by:

Head
of Educational Programme

Chairperson
of Didactic Council

Head
of Educational
Department

M.M. Redina

M.D. Kharlamova

E.V. Savenkova

(signature)

(signature)

(signature)

(month, date, year)

(month, date, year)

(month, date, year)

2026

1. EDUCATIONAL PROGRAMME GOAL (MISSION)

The mission of the joint educational program "Nature Management" (in English) is the joint training of highly qualified and competitive specialists in the field of nature management by teaching them in innovative educational courses using effective teaching technologies (emphasis on interactive work, project-based learning, development of a creative approach to solving scientific and practical problems). This approach guarantees graduates of the master's degree program high competitiveness in the international labor market, in particular in the SCO countries.

In the field of education, the general goal of the educational program "Nature Management" (in English) is to obtain professional education in the field of nature management, allowing the graduate to work successfully in the chosen field of activity, to have general cultural, professional and special competencies that contribute to the social mobility of the graduate and sustainability in the labor market, as well as to prepare graduates for self-study and continuous professional self-improvement..

In the field of education, the goal of this EP is to form social and personal qualities of master's students that contribute to strengthening morality, developing general cultural needs, creativity, social adaptation, communication skills, tolerance, and persistence in achieving goals. The mission of the joint educational program "Nature Management" (in English) is the joint training of highly qualified and competitive specialists in the field of nature management by teaching them innovative educational courses using effective teaching technologies (emphasis on interactive work, project-based learning, and development of a creative approach to solving scientific and practical problems). This approach guarantees graduates of the master's program high competitiveness in the international labor market, in particular in the SCO countries

2. EDUCATIONAL PROGRAMME RELEVANCE, SPECIFICITY, AND UNIQUENESS

The active development of Russian-Chinese partnership in various fields of activity, the severity of environmental problems in the most dynamically developing industries of our countries, the need to preserve and restore unique natural objects require the training of modern environmental specialists who would be well versed in the theoretical issues of environmental management and would have sufficient practical competencies to solve professional problems. The program "Nature Management" is focused on training such specialists. The uniqueness of the program is due to its bilateral nature: the disciplines of the HEP are implemented both at RUDN and at the partner university in the SCO Universities - Shandong University. This allows students not only to undergo theoretical and practical training in both countries, but also to get acquainted with the practice of organizing environmental management in foreign organizations, which certainly contributes to the expansion of the competencies of future specialists and increases their competitiveness in the labor market. The qualifications of graduates of the HEP "Nature Management" are most fully characterized by a list of their competencies and skills:

research activities:

- use of modern methods of processing and interpreting environmental information in conducting scientific and industrial research;
- knowledge of the basics of design, expert-analytical activities and conducting research using modern approaches and methods, equipment and computing systems;

– the ability to creatively use knowledge of fundamental and applied sections of special disciplines of the master's program in scientific and industrial-technological activities;

– the ability to formulate problems, tasks and methods of scientific research, obtain new reliable facts based on observations, experiments, scientific analysis of empirical data, review scientific papers, compile analytical reviews of accumulated information in world science and industrial activities, generalize the results obtained in the context of previously accumulated knowledge in science and formulate conclusions and practical recommendations based on representative and original research results;

organizational and managerial activities: to carry out the organization and management of scientific research, scientific production and expert-analytical work using in-depth knowledge in the field of environmental management;

pedagogical activity: possession of theoretical knowledge and practical skills for pedagogical work in educational organizations, the ability to competently carry out educational and methodological activities for planning environmental education and education for sustainable development.

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

A master's student studying under the Nature Management educational program is preparing for the following types of professional activity:

- scientific research;
- organizational and managerial;
- teaching

Those who have completed the master's program are highly qualified specialists who will be able to work effectively in large industrial enterprises, in higher education institutions, and conduct work in the field of waste management and protection of the environment and humans from the negative impact of hazardous waste.

Potential employers of graduates of the educational program are:

– International organizations in the field of environmental safety, sustainable development, natural resource management, environmental education and research;

– Design, survey, research, production, marketing, consulting, economic, legal, training, expert departments, departments, bureaus, centers, companies, institutes in the field of ecology and nature management;

– National and regional environmental protection and nature management authorities (the Ministry of Natural Resources of the Russian Federation, other environmental departments and institutions);

– Federal and regional institutions of the Ministry of Regional Development of the Russian Federation, the Ministry of Emergency Situations of the Russian Federation, the Ministry of Economic Development and Trade of the Russian Federation, the Federal Agency for Construction and Housing and Communal Services of the Russian Federation, the Ministry of Health and Social Development of the Russian Federation, the Ministry of Education and Science of the Russian Federation, the Ministry of Agriculture of the Russian Federation and federal services and agencies subordinate to them; as well as the Federal Service for Hydrometeorology and Environmental Monitoring, the Federal Atomic Energy Agency, the Federal Agency for Tourism, and other departments and institutions; – Authorities and administrations of the constituent entities of the Russian Federation, municipal entities; academic and departmental research organizations; educational

organizations of secondary general, secondary vocational and higher education, as well as public education; mass media; public organizations and funds; representative offices of foreign companies.

4. SPECIAL REQUIREMENTS FOR POTENTIAL APPLICANTS

Applicants with a first higher (first stage of higher) education in the Master's program profile and who wish to improve their professional level and acquire additional competencies may apply for the educational program. Applicants with non-core education in related fields (economics, natural sciences, etc.) may also apply.

Applicants must have the relevant competencies to master the Nature Management program (in English):

- have an Intermediate level or higher in English;
- have a culture of thinking, the ability to generalize, analyze, perceive information, set goals and choose ways to achieve them;
- be aware of the social significance of their future profession, have a high motivation to perform professional activities, the ability to find professional solutions, including in non-standard situations and be ready to take responsibility for them;
- be prepared to perform professional functions when working in a team;
- have basic fundamental training in the field of natural sciences and mathematics,
- be able to apply information technology to solve technical problems,
- be able to read and understand specialized technical literature.
- have experience in participating in research projects in the field of training,
- be able to systematize scientific information, process the obtained data..

5. FEATURES OF EDUCATIONAL PROGRAMME IMPLEMENTATION

5.1. The Educational Programme is implemented with elements of e-learning and distance learning technologies (VR, TUIS, MOOC, videoconferencing).

5.2. The language of the Educational Programme implementation is English.

5.3. The Educational Programme can be adapted for education of people with disabilities.

5.4. The Educational Programme is implemented by the Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia.

The information about partner organisations involved in the implementation of the Educational Programme.

Name of partner organisation	Interaction functionality
JSC EcoStandard group company Rosprirodnadzor ISED UNESCO Fracom LLC ANO MC RPPNSh	<i>students' research at a partner organisation, internships</i>

5.5. The information on the planned introductory/advanced field internships and (or) research & development internships

Internship*	Internship location
Manufacturing internship (introductory, intramural)	JSC EcoStandard group company Rosprirodnadzor ISED UNESCO Frecom LLC ANO MC RPPNSh
Research work	JSC EcoStandard group company Rosprirodnadzor ISED UNESCO Fracom LLC ANO MC RPPNSh

* The section should indicate the type (introductory/advanced field internship), the kind (orientation, technological, research, pre-graduate, etc.), and the mode (intramural/ extramural) of internship.

6. CHARACTERISTICS OF EDUCATIONAL PROGRAMME GRADUATE'S PROFESSIONAL ACTIVITIES

6.1. The field(s) of professional activities of the Educational Programme graduate, where he/she can carry out his/her professional activities: *экологическая безопасность в промышленности (environmental safety in the industry)*.

6.2. The type(s) of professional activities tasks, which the graduate is trained to solve when mastering the Educational Programme: Development and implementation of measures to improve the effectiveness of environmental protection activities of the organization; development, implementation and improvement of the environmental management system in the organization (Разработка и проведение мероприятий по повышению эффективности природоохранной деятельности организации; разработка, внедрение и совершенствование системы экологического менеджмента в организации).

6.3. The list of generalised labour functions and labour functions which are related to the professional activities of the Educational Programme graduate and are taken into account in the course of its development.*

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
40.117 "Специалист по экологической безопасности (в промышленности)"	C	Разработка и проведение мероприятий по повышению эффективности природоохранной деятельности организации	6	Conducting an environmental analysis of expansion, reconstruction, and modernization projects for existing production facilities, and the creation of new technologies and equipment within the organization (Проведение экологического	C/01.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				анализа проектов расширения, реконструкции, модернизации действующих производств, создаваемых новых технологий и оборудования в организации)		
				Environmental support for the production of new products in an organization (Экологическое обеспечение производства новой продукции в организации)	C/02.6	6
				Development and environmental and economic justification of plans for the implementation of new environmental protection equipment and technologies in the organization (Разработка и эколого-экономическое обоснование планов внедрения новой природоохранной техники и технологий в организации)	C/03.6	6
				Establishing the causes and consequences of emergency emissions and discharges of	C/04.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				pollutants into the environment, preparing proposals to prevent negative consequences (Установление причин и последствий аварийных выбросов и сбросов загрязняющих веществ в окружающую среду, подготовка предложений по предупреждению негативных последствий)		
				Economic regulation of environmental activities of an organization (Экономическое регулирование природоохранной деятельности организации)	C/05.6	6
				Organization of personnel training in the field of environmental safety (Организация обучения персонала организации в области обеспечения экологической безопасности)	C/06.7	6
				Conducting an environmental analysis of expansion, reconstruction, and	C/01.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				modernization projects for existing production facilities, and the creation of new technologies and equipment within the organization (Проведение экологического анализа проектов расширения, реконструкции, модернизации действующих производств, создаваемых новых технологий и оборудования в организации)		
40.117 "Специалист по экологической безопасности (в промышленности)"	D	Разработка, внедрение и совершенствование системы экологического менеджмента в организации	7	Analysis of the organization's environment (Анализ среды организации)	D/01.7	7
				Planning in the environmental management system of an organization (Планирование в системе экологического менеджмента организации)	D/02.7	7
				Determining the necessary resources for the development, implementation, maintenance and improvement of the environmental management system in the organization (Определение	D/03.7	7

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				необходимых ресурсов для разработки, внедрения, поддержания и улучшения системы экологического менеджмента в организации)		
				Ensuring the organization's preparedness for emergency situations (Обеспечение готовности организации к чрезвычайным ситуациям)	D/04.7	7
				Evaluation of performance results and improvement of the environmental management system in the organization (Оценка результатов деятельности и совершенствование системы экологического менеджмента в организации)	D/05.7	7
				Organization of certification of the environmental management system of an organization (Организация проведения сертификации системы экологического	D/06.7	7

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
					менеджмента организации)	

* The wording of labour functions is taken from the relevant Occupational Standards.

7. REQUIREMENTS FOR EDUCATIONAL PROGRAMME OUTCOMES

7.1. Upon completion of the Educational Programme, the graduate is expected to acquire the following Generic Competences (GCs):

Code and descriptor of generic competence	Code and competence level indicator
GC-1 - able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions.	GC-1.1 able to analyze a problem situation as a system, identifying its components and the connections between them GC-1.2 possesses argumentation and develops a meaningful strategy for solving a problem situation based on systemic and interdisciplinary approaches GC -1.3 knows the basics of the strategy and identifies possible risks, suggesting ways to eliminate them
GC-2 - able to manage the project at all stages of its life cycle.	GC -2.1 able to formulate a project task based on the problem posed and the way to solve it GC-2.2 able to develop a project concept, formulates a goal, tasks, justifies the relevance, expected results and scope of their application GC-2.3 knows how to develop a project implementation plan taking into account possible risks, plans the necessary resources
GC-3 - able to organize and manage the work of the team, developing a team strategy to achieve the goal	GC -3.1 knows the techniques and methods of teamwork, organizes the selection of team members to achieve the goal GC -3.2 able to organize and adjust the work of the team, including on the basis of collegial decisions GC-3.3 able to delegate authority to team members and distributes assignments, gives feedback on the results, takes responsibility for the overall result
GC-4. Able to apply modern communication technologies, including in a foreign language(s) for academic and professional interaction	GC-4.1 able to establish contacts and organize communication in accordance with the needs of joint activities, using modern communication technologies GC -4.2 knows the basics of business documentation and uses professional vocabulary in foreign and Russian languages GC -4.3 able to organize discussion of results and present the results of research and project activities at various public events in Russian or a foreign language, choosing the most appropriate format
GC-5 able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC-5.1. knows the main categories of philosophy, the laws of historical development, the basics of intercultural communication GC-5.2 able to communicate in the world of cultural diversity and demonstrate mutual understanding between students from different cultures in compliance with ethical and intercultural norms GC-5.3. has practical skills in analyzing philosophical and historical facts, assessing cultural phenomena; ways of analyzing and revising his views in case of disagreements and conflicts in intercultural

Code and descriptor of generic competence	Code and competence level indicator
	communication
GC-6 - able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	GC-6.1 able to assess his resources and their limits (personal, situational, temporary), makes reasonable use of them GC-6.2 able to identify educational needs and ways to improve their own (including professional) activities based on self-assessment GC-6.3 has the skills to build a flexible professional trajectory, taking into account the accumulated experience of professional activity, dynamically changing requirements of the labor market and personal development strategy
GC-7. able to use digital technologies and methods of search, processing, analysis, storage and presentation of information (in the field of ecology and nature management) in the digital economy and modern corporate information culture	GC--7.1 has skills in using digital technologies and search methods GC--7.2 is able to process, analyze, store and correctly present information GC--7.3 knows the principles and techniques of modern corporate information culture and the basics of the digital economy

7.2. Upon completion of the Educational Programme, the graduate is expected to acquire the following general professional competences (GPCs):

Code and descriptor of general professional competence	Code and competence level indicator
GPC-1. Able to use philosophical concepts and methodology of scientific knowledge in the study of various levels of organization of matter, space and time	GPC -1.1 Knows the philosophical concepts of natural science and the methodology of scientific knowledge, GPC -1.2 Able to use in-depth knowledge of the philosophical concepts of natural science in assessing the consequences of their professional activities GPC -1.3 Able to apply the acquired knowledge in their research activities, to make correct generalizations and conclusions
GPC -2. Able to use special and new sections of ecology, geoecology and nature management in solving research and applied problems of professional activity	GPC -2.1 Knows the basics of ecology, geoecology, environmental economics and circular economy, as well as environmental management GPC -2.2 Able to use environmental, economic and other special knowledge and algorithms to solve professional problems GPC -2.3 Able to find, analyze and competently use the latest information and modern techniques in the performance of research and applied tasks
GPC -3. Able to apply environmental research methods to solve research and applied problems of professional activity	GPC -3.1 Knows the principles and methods of environmental monitoring of environmental components GPC -3.2 Owns analytical methods for monitoring pollutants and physical impacts and processing the information received GPC -3.3 Able to develop systems for environmental monitoring and control in production and solve applied problems in professional activities
GPC -4. Able to apply regulatory legal acts and	GPC -4.1 Knows the basics of environmental regulation and the basics of legislation in the field of nature management

Code and descriptor of general professional competence	Code and competence level indicator
norms of professional ethics in the field of ecology and nature management	GPC -4.2 Knows how to use and apply regulatory legal acts in the field of ecology and nature management GPC -4.3 Able to use the norms of professional ethics in their professional activities
GPC -5. Able to solve the problems of professional activity in the field of ecology, nature management and nature protection using information and communication, including geoinformation technologies.	GPC -5.1 Knows how to choose and apply an algorithm for solving environmental problems and implements algorithms using software GPC -5.2 Able to use information technology tools to search, store, process, analyze and present information GPC -5.3 Knows how to process Earth remote sensing data and use cartographic materials, owns modern GIS technologies
GPC -6 Able to design, represent, protect and disseminate the results of their professional activities, including research.	GPC -6.1 Able to receive, analyze, summarize the necessary scientific information using modern research methods, present their own results in the form of scientific articles and public speeches GPC -6.2 Possesses the skills of an oral report and presentation of the results of project and scientific activities, fluency in the material GPC -6.3 Knows the methodological foundations of scientific research, the requirements of copyright and scientific ethics

7.3. Upon completion of the Educational Programme, the graduate is expected to acquire the following professional competences (PCs)* :

Code and descriptor of professional competence	Code and competence level indicator	Code and title of occupational standard for relevant PC
SPC-1 The ability to formulate problems, tasks and methods of scientific research, summarize the results obtained, formulate conclusions and practical recommendations based on research results	SPC-1.1 Knows the basics of research planning methodology SPC-1.2 Is able to summarize the results obtained, formulate conclusions and practical recommendations based on the results of research	40.117 "Environmental safety specialist (in industry)"
SPC-2 The ability to creatively use knowledge of fundamental and applied sections	SPC-2.1 Has the skills of applying advanced scientific achievements to select and implement the best available technologies (BAT)	40.117 "Environmental safety specialist (in industry)"

Code and descriptor of professional competence	Code and competence level indicator	Code and title of occupational standard for relevant PC
of special disciplines in production and technological activities		
SPC-3 Knowledge of the basics of design, expert-analytical activity and research using modern approaches and methods, equipment and computer systems	SPC-3.1 Is able to plan the implementation of modern approaches and methods, equipment and computer systems for solving problems in the professional field PC-3.2 Owns the basics of design and expert-analytical activity	40.117 "Environmental safety specialist (in industry)"
SPC-4 Is able to use modern methods of processing and interpretation of environmental information during scientific and industrial research	SPC-4.1 Is able to apply modern methods of processing and interpretation of environmental information when conducting industrial research SPC-4.2 Is able to interpret the obtained research results from the point of view of compliance with safety and performance indicators SPC-4.3 Has the skills of conducting control and supervisory activities based on modern methods of processing environmental information	40.117 "Environmental safety specialist (in industry)"
SPC-5 Is able to develop standard environmental protection measures and assess the impact of planned structures or other forms of economic activity on the environment	SPC-5.1 Is able to develop and plan the implementation of standard environmental measures taking into account international practice and the requirements of national legislation SPC-5.2. Has the skills to assess the impact of planned structures or other forms of economic activity on the environment SPC-5.3 Knows the requirements for the preparation and implementation of environmental modernization programs of enterprises, the introduction of BAT, the organization of environmental monitoring, accounting and reporting	40.117 "Environmental safety specialist (in industry)"
SPC-6 Able to diagnose problems of nature protection, develop practical recommendations for its protection and sustainable	SPC-6.1 Is able to detect inconsistencies in the state of environmental components with the requirements of national and international standards SPC-6.2 Is able to develop programs for monitoring natural complexes under conditions of man-made loads and programs for environmental rehabilitation of territories	40.117 "Environmental safety specialist (in industry)"

Code and descriptor of professional competence	Code and competence level indicator	Code and title of occupational standard for relevant PC
development		

*The Educational Programme's developer formulates the PC, taking into account the requirements of occupational standards and the Educational Programme field of study.

8. MATRIX OF COMPETENCES that students acquire when mastering the Educational Programme Economics of Natural Resources Management in the field of studies 05.04.06 Ecology and Nature Management

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions	GC-2. able to manage the project at all stages of its life cycle	GC-3. able to organize and manage the work of the team, developing a team strategy to achieve the goal	GC-4. Able to apply modern communication technologies, including in a foreign language(s) for academic and professional interaction	GC-5. able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC-6. able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	GC-7. able to use digital technologies and methods of search, processing, analysis, storage and presentation of information (in the field of ecology and nature management) in the digital economy and modern corporate information culture
Block 1.	Disciplines (modules)	УК-1.1; УК-1.2	УК-2.1; УК-2.2	УК-3.1; УК-3.2	УК-4.1; УК-4.2	УК-5.1; УК-5.2	УК-6.1; УК-6.2	УК-7.1; УК-7.2
В1.О	Mandatory part	УК-1.1; УК-1.2	УК-2.1; УК-2.2	УК-3.1; УК-3.2	УК-4.1; УК-4.2	УК-5.1; УК-5.2	УК-6.1; УК-6.2	УК-7.1; УК-7.2
В1.О.01	Core component							
В1.О.01.01	Philosophical problems of nature sciences / Философские проблемы естествознания	УК-1.1; УК-1.2; УК-1.3				УК-5.1; УК-5.2; УК-5.3		
В1.О.01.02	IT in ecology and natural resources management / Компьютерные технологии и статистические методы в экологии и природопользовании							УК-7.1; УК-7.2; УК-7.3
В1.О.01.03	Modern problems of ecology and nature management / Современные проблемы экологии и природопользования					УК-5.1	УК-6.1; УК-6.2; УК-6.3	
В1.О.01.04	International cooperation for the sustainable development of the environment / Международное сотрудничество в целях устойчивого развития окружающей среды			УК-3.1; УК-3.2		УК-5.1; УК-5.2; УК-5.3		

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions	GC -2. able to manage the project at all stages of its life cycle	GC -3. able to organize and manage the work of the team, developing a team strategy to achieve the goal	GC -4. Able to apply modern communication technologies, including in a foreign language(s) for academic and professional interaction	GC -5. able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC -6. able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	GC -7. able to use digital technologies and methods of search, processing, analysis, storage and presentation of information (in the field of ecology and nature management) in the digital economy and modern corporate information culture
B1.O.02	Variable component							
B1.O.02.01	Certification of raw materials, production processes and products in accordance with international environmental requirements / Сертификация сырья, производственных процессов и продукции по международным экологическим требованиям							
B1.O.02.02	Radio ecological safety of territories / Радиоэкологическая безопасность территорий							
B1.O.02.03	Methodology of scientific creativity / Методология научного творчества							УК-7.1; УК-7.2; УК-7.3
B1.O.02.04	HSE-менеджмент / HSE-менеджмент							
B1.O.02.05	Environmental design of industrial facilities / Экологическое проектирование промышленных объектов		УК-2.1; УК-2.2; УК-2.3					
B1.O.02.06	Modern methods and technologies of environmental protection / Современные методы и технологии защиты окружающей среды							
B1.O.02.07	Comprehensive assessment of natural and industrial potentials of territories /							

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions	GC -2. able to manage the project at all stages of its life cycle	GC -3. able to organize and manage the work of the team, developing a team strategy to achieve the goal	GC -4. Able to apply modern communication technologies, including in a foreign language(s) for academic and professional interaction	GC -5. able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC -6. able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	GC -7. able to use digital technologies and methods of search, processing, analysis, storage and presentation of information (in the field of ecology and nature management) in the digital economy and modern corporate information culture
	Комплексная оценка природных и производственных потенциалов территорий							
Б1.О.02.08	Storage, processing and disposal of waste / Хранение, переработка и утилизация отходов							
Б1.О.02.09	Ecology and public health / Экология и здоровье населения							
Б1.В.ДВ.01.01	Methods of monitoring environmental safety of nature management / Методы мониторинга экологической безопасности природопользования							
Б1.В.ДВ.01.02	Monitoring of natural and man-made systems / Мониторинг природно-техногенных систем							
Б1.В.ДВ.02.01	Regional geoeological assessment of territories / Региональная геоэкологическая оценка территорий							
Б1.В.ДВ.02.02	Information technologies in nature management / Информационные технологии в природопользовании							
Б1.В.ДВ.03.01	International environmental quality management standards / Международные стандарты							

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. able to carry out a critical analysis of problem situations based on a systematic approach, to develop a strategy of actions	GC -2. able to manage the project at all stages of its life cycle	GC -3. able to organize and manage the work of the team, developing a team strategy to achieve the goal	GC -4. Able to apply modern communication technologies, including in a foreign language(s) for academic and professional interaction	GC -5. able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC -6. able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	GC -7. able to use digital technologies and methods of search, processing, analysis, storage and presentation of information (in the field of ecology and nature management) in the digital economy and modern corporate information culture
	управления качеством окружающей среды							
Б1.В.ДВ.03.02	Management of the mineral resource complex / Управление минерально-сырьевым комплексом							
В2	Internship	УК-1.1; УК-1.2; УК-1.3	УК-2.1; УК-2.2; УК-2.3				УК-6.1; УК-6.2	УК-7.1; УК-7.2; УК-7.3
Б2.В.01(Н)	Research Work / Научно-исследовательская работа	УК-1.1; УК-1.2; УК-1.3;	УК-2.1; УК-2.3					УК-7.1; УК-7.2; УК-7.3
Б2.В.02(П)	Work Experience Internship / Производственная практика	УК-1.1; УК-1.2; УК-1.3	УК-2.1; УК-2.2; УК-2.3				УК-6.1; УК-6.2	УК-7.1; УК-7.2; УК-7.3
Б2.В.03(Пд)	Pre-Graduation Practice / Преддипломная практика							

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES					
		GPC-1. Able to use philosophical concepts and methodology of scientific knowledge in the study of various levels of organization of matter, space and time	GPC -2. Able to use special and new sections of ecology, geology and nature management in solving research and applied problems of professional activity	GPC -3. Able to apply environmental research methods to solve research and applied problems of professional activity	GPC -4. Able to apply regulatory legal acts and norms of professional ethics in the field of ecology and nature management	GPC -5. Able to solve the problems of professional activity in the field of ecology, nature management and nature protection using information and communication, including geoinformation technologies	GPC -6. Able to design, represent, protect and disseminate the results of their professional activities, including research.
Block 1.	Disciplines (modules)	ОПК-1.1; ОПК-1.2	ОПК-2.1; ОПК-2.2	ОПК-3.1; ОПК-3.2	ОПК-4.1; ОПК-4.2	ОПК-5.1; ОПК-5.2	ОПК-6.1; ОПК-6.2
B1.O	Mandatory part						
B1.O.01	Core component						
B1.O.01.01	Philosophical problems of nature sciences / Философские проблемы естествознания	ОПК-1.1; ОПК-1.2; ОПК-1.3					
B1.O.01.02	IT in ecology and natural resources management / Компьютерные технологии и статистические методы в экологии и природопользовании					ОПК-5.1	
B1.O.01.03	Modern problems of ecology and nature management / Современные проблемы экологии и природопользования		ОПК-2.1				
B1.O.01.04	International cooperation for the sustainable development of the environment / Международное сотрудничество в целях устойчивого развития окружающей среды						
B1.O.02	Variable component						
B1.O.02.01	Certification of raw materials, production processes and products in accordance with international environmental requirements / Сертификация сырья, производственных процессов и продукции по						

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES					
		GPC-1. Able to use philosophical concepts and methodology of scientific knowledge in the study of various levels of organization of matter, space and time	GPC -2. Able to use special and new sections of ecology, geology and nature management in solving research and applied problems of professional activity	GPC -3. Able to apply environmental research methods to solve research and applied problems of professional activity	GPC -4. Able to apply regulatory legal acts and norms of professional ethics in the field of ecology and nature management	GPC -5. Able to solve the problems of professional activity in the field of ecology, nature management and nature protection using information and communication, including geoinformation technologies	GPC -6. Able to design, represent, protect and disseminate the results of their professional activities, including research.
	международным экологическим требованиям						
Б1.О.02.02	Radio ecological safety of territories / Радиоэкологическая безопасность территорий		ОПК-2.1; ОПК-2.2; ОПК-2.3				
Б1.О.02.03	Methodology of scientific creativity / Методология научного творчества					ОПК-6.1; ОПК-6.2; ОПК-6.3	
Б1.О.02.04	HSE-менеджмент / HSE-менеджмент			ОПК-3.1; ОПК-3.2; ОПК-3.3	ОПК-4.1; ОПК-4.2; ОПК-4.3		
Б1.О.02.05	Environmental design of industrial facilities / Экологическое проектирование промышленных объектов						
Б1.О.02.06	Modern methods and technologies of environmental protection / Современные методы и технологии защиты окружающей среды						
Б1.О.02.07	Comprehensive assessment of natural and industrial potentials of territories / Комплексная оценка природных и производственных потенциалов территорий					ОПК-5.1; ОПК-5.2; ОПК-5.3	

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES					
		GPC-1. Able to use philosophical concepts and methodology of scientific knowledge in the study of various levels of organization of matter, space and time	GPC -2. Able to use special and new sections of ecology, geocology and nature management in solving research and applied problems of professional activity	GPC -3. Able to apply environmental research methods to solve research and applied problems of professional activity	GPC -4. Able to apply regulatory legal acts and norms of professional ethics in the field of ecology and nature management	GPC -5. Able to solve the problems of professional activity in the field of ecology, nature management and nature protection using information and communication, including geoinformation technologies	GPC -6. Able to design, represent, protect and disseminate the results of their professional activities, including research.
Б1.О.02.08	Storage, processing and disposal of waste / Хранение, переработка и утилизация отходов						
Б1.О.02.09	Ecology and public health / Экология и здоровье населения						
Б1.В.ДВ.01.01	Methods of monitoring environmental safety of nature management / Методы мониторинга экологической безопасности природопользования						
Б1.В.ДВ.01.02	Monitoring of natural and man-made systems / Мониторинг природно-техногенных систем						
Б1.В.ДВ.02.01	Regional geocological assessment of territories / Региональная геоэкологическая оценка территорий						
Б1.В.ДВ.02.02	Information technologies in nature management / Информационные технологии в природопользовании						
Б1.В.ДВ.03.01	International environmental quality management standards / Международные стандарты управления качеством окружающей среды						

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES					
		GPC-1. Able to use philosophical concepts and methodology of scientific knowledge in the study of various levels of organization of matter, space and time	GPC -2. Able to use special and new sections of ecology, geology and nature management in solving research and applied problems of professional activity	GPC -3. Able to apply environmental research methods to solve research and applied problems of professional activity	GPC -4. Able to apply regulatory legal acts and norms of professional ethics in the field of ecology and nature management	GPC -5. Able to solve the problems of professional activity in the field of ecology, nature management and nature protection using information and communication, including geoinformation technologies	GPC -6. Able to design, represent, protect and disseminate the results of their professional activities, including research.
Б1.В.ДВ.03.02	Management of the mineral resource complex / Управление минерально-сырьевым комплексом						
В2	Internship	ОПК-1.3	ОПК-2.1; ОПК-2.2; ОПК-2.3			ОПК-5.1; ОПК-5.2; ОПК-5.3	ОПК-6.1; ОПК-6.2; ОПК-6.3
Б2.В.01(Н)	Research Work / Научно-исследовательская работа						ОПК-6.1; ОПК-6.3
Б2.В.02(П)	Work Experience Internship / Производственная практика	ОПК-1.3	ОПК-2.1; ОПК-2.2; ОПК-2.3			ОПК-5.1; ОПК-5.2; ОПК-5.3	ОПК-6.1; ОПК-6.2; ОПК-6.3
Б2.В.03(Пд)	Pre-Graduation Practice / Преддипломная практика						

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCES					
		PC-1 Ability to formulate problems, tasks and methods of scientific research, generalize the results obtained, formulate conclusions and practical recommendations based on research results	PC-2 Ability to creatively use knowledge of fundamental and applied sections of special disciplines in production and technological activities	PC-3 Possession of the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computer systems	PC-4 Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	PC-5 Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	PC-6 Able to diagnose problems of nature conservation, develop practical recommendations for its protection and sustainable development
Block 1.	Disciplines (modules)	ПК-1.1; ПК-1.2	ПК-2.1	ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2	ПК-5.1; ПК-5.2	ПК-6.1; ПК-6.2
B1.O	Mandatory part	ПК-1.1; ПК-1.2	ПК-2.1	ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2	ПК-5.1; ПК-5.2	ПК-6.1
B1.O.01	Core component				ПК-4.1; ПК-4.2; ПК-4.3	ПК-5.2; ПК-5.3	
B1.O.01.01	Philosophical problems of nature sciences / Философские проблемы естествознания						
B1.O.01.02	IT in ecology and natural resources management / Компьютерные технологии и статистические методы в экологии и природопользовании				ПК-4.1; ПК-4.2; ПК-4.3		
B1.O.01.03	Modern problems of ecology and nature management / Современные проблемы экологии и природопользования						
B1.O.01.04	International cooperation for the sustainable development of the environment / Международное сотрудничество в целях устойчивого развития окружающей среды					ПК-5.2; ПК-5.3	
B1.O.02	Variable component						
B1.O.02.01	Certification of raw materials, production processes and products in accordance with international environmental requirements / Сертификация сырья, производственных процессов и продукции по		ПК-2.1			ПК-5.1	

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCES					
		PC-1 Ability to formulate problems, tasks and methods of scientific research, generalize the results obtained, formulate conclusions and practical recommendations based on research results	PC-2 Ability to creatively use knowledge of fundamental and applied sections of special disciplines in production and technological activities	PC-3 Possession of the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computer systems	PC-4 Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	PC-5 Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	PC-6 Able to diagnose problems of nature conservation, develop practical recommendations for its protection and sustainable development
	международным экологическим требованиям						
Б1.О.02.02	Radio ecological safety of territories / Радиоэкологическая безопасность территорий		ПК-2.1			ПК-5.1	
Б1.О.02.03	Methodology of scientific creativity / Методология научного творчества	ПК-1.1; ПК-1.2					
Б1.О.02.04	HSE-менеджмент / HSE-менеджмент	ПК-1.1; ПК-1.2					
Б1.О.02.05	Environmental design of industrial facilities / Экологическое проектирование промышленных объектов		ПК-2.1	ПК-3.1; ПК-3.2			
Б1.О.02.06	Modern methods and technologies of environmental protection / Современные методы и технологии защиты окружающей среды					ПК-5.1	ПК-6.1
Б1.О.02.07	Comprehensive assessment of natural and industrial potentials of territories / Комплексная оценка природных и производственных потенциалов территорий		ПК-2.1				ПК-6.1
Б1.О.02.08	Storage, processing and disposal of waste / Хранение, переработка и утилизация отходов		ПК-2.1	ПК-3.1; ПК-3.2		ПК-5.1	
Б1.О.02.09	Ecology and public health / Экология и здоровье населения		ПК-2.1			ПК-5.1	

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCES					
		PC-1 Ability to formulate problems, tasks and methods of scientific research, generalize the results obtained, formulate conclusions and practical recommendations based on research results	PC-2 Ability to creatively use knowledge of fundamental and applied sections of special disciplines in production and technological activities	PC-3 Possession of the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computer systems	PC-4 Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	PC-5 Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	PC-6 Able to diagnose problems of nature conservation, develop practical recommendations for its protection and sustainable development
Б1.В.ДВ.01.01	Methods of monitoring environmental safety of nature management / Методы мониторинга экологической безопасности природопользования						ПК-6.1; ПК-6.2
Б1.В.ДВ.01.02	Monitoring of natural and man-made systems / Мониторинг природно-техногенных систем						ПК-6.1; ПК-6.2
Б1.В.ДВ.02.01	Regional geocological assessment of territories / Региональная геоэкологическая оценка территорий	ПК-1.1; ПК-1.2		ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3		
Б1.В.ДВ.02.02	Information technologies in nature management / Информационные технологии в природопользовании	ПК-1.1; ПК-1.2		ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3		
Б1.В.ДВ.03.01	International environmental quality management standards / Международные стандарты управления качеством окружающей среды			ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3	ПК-5.1; ПК-5.2; ПК-5.3	
Б1.В.ДВ.03.02	Management of the mineral resource complex / Управление минерально-сырьевым комплексом			ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3	ПК-5.1; ПК-5.2; ПК-5.3	
В2	Internship	ПК-1.1; ПК-1.2		ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3	ПК-5.2; ПК-5.3	ПК-6.1; ПК-6.2
Б2.В.01(Н)	Research Work / Научно-исследовательская работа	ПК-1.1; ПК-1.2		ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3		

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCES					
		PC-1 Ability to formulate problems, tasks and methods of scientific research, generalize the results obtained, formulate conclusions and practical recommendations based on research results	PC-2 Ability to creatively use knowledge of fundamental and applied sections of special disciplines in production and technological activities	PC-3 Possession of the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computer systems	PC-4 Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	PC-5 Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	PC-6 Able to diagnose problems of nature conservation, develop practical recommendations for its protection and sustainable development
Б2.В.02(П)	Work Experience Internship / Производственная практика	ПК-1.1; ПК-1.2		ПК-3.2	ПК-4.1; ПК-4.2; ПК-4.3	ПК-5.2; ПК-5.3	ПК-6.1; ПК-6.2
Б2.В.03(Пд)	Pre-Graduation Practice / Преддипломная практика			ПК-3.2		ПК-5.2; ПК-5.3	ПК-6.1; ПК-6.2