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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
Protocol No. 8
January 25, 2011
(month, date, year)

Opened by order of the Rector of RUDN University No. 258
April, 20, 2011
(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:

Economics of Natural Resources 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: implemented in English

AGREED by:

Head
of Educational Programme

M.M. Redina

(signature)

(month, date, year)

Chairperson
of Didactic Council

M.D. Kharlamova

(signature)

(month, date, year)

Head
of Educational
Department
E.V. Savenkova

(signature)

(month, date, year)

1. EDUCATIONAL PROGRAMME GOAL (MISSION)

The objective of the higher education program “Economics of natural resources management” is to train highly sought after in the labor market professionals with an active lifestyle, broad erudition, high level of theoretical training, practice-oriented skills and knowledge of environmental problems and solutions in the field of wildlife management objectives. The higher education program develops students' responsible attitude to take decisions in their professional activities, upholding environmental interests. Education the program is aimed at the formation of universal, general professional and professional competencies in compliance with the requirements of the Educational Standard of RUDN University / Federal State Educational Standard of Higher Education in the area of Ecology and environmental management, field of studies 05.04.06.

In the field of training, the overall goal of the higher education program “Economics of natural resources management” (in English) is to obtain a professional education in the field of environmental management, allowing the graduate to work successfully in the chosen field of activity, to have general cultural, professional and special competencies that contribute to social graduate mobility and stability in the labor market, as well as preparing graduates for self-study and continuous professional self-improvement.

In the field of education, the program is aimed to form social and personal qualities of undergraduates, contributing to the strengthening of morality, the development of general cultural needs, creative abilities, social adaptation, communication, tolerance, perseverance in achieving goals.

2. EDUCATIONAL PROGRAMME RELEVANCE, SPECIFICITY, AND UNIQUENESS

The active development of the international scientific and industrial partnership in various fields of activity, the severity of environmental problems in the most dynamically developing sectors of our countries, the need to preserve and restore unique natural objects require the training of modern environmental specialists who would be well aware of the theoretical issues of environmental management and would have sufficient practical competencies for solving professional problems. It is on the training of such specialists that the program "Economics of natural resources management" is oriented.

The uniqueness of the program is due to its complex nature: it combines the disciplines of the natural sciences and economics and management areas. The program is implemented in English. The qualifications of graduates of the economics of natural resources management program are most fully characterized by a list of their competencies and skills:

In research activities:

- use of modern methods of processing and interpretation of environmental information in the course of scientific and industrial research;
- possession of the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and computer systems;
- the ability to creatively use in scientific and industrial and technological activities the knowledge of fundamental and applied sections of special disciplines of the master's program;
- the ability to formulate problems, tasks and methods of scientific research, to obtain new reliable facts based on observations, experiments, scientific analysis of empirical data, to abstract scientific works, to compile analytical reviews of accumulated information in

world science and production activities, to generalize the results obtained in the context of previously accumulated in science of knowledge and formulate conclusions and practical recommendations based on representative and original research results

In organizational and managerial activities: to organize and manage research and development and expert-analytical work using in-depth knowledge in the field of environmental management.

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

A master studying under the educational program "Economics of natural resources management" is preparing for the following types of professional activities:

- research;
- organizational and managerial.

Graduates of the master's program are highly qualified specialists who will be able to work effectively at large industrial enterprises, in higher educational institutions, work in the field of waste management and protect the environment and humans from the negative impact of hazardous waste.

Potential consumers 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, institutions in the field of ecology and nature management;
- National and regional authorities for nature protection and management of natural resources (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 the Russian Federation and their subordinate Federal services and agencies; as well as the Federal Service for Hydrometeorology and Environmental Monitoring, the Federal Agency for Atomic Energy, the Federal Agency for Tourism, and other departments and institutions;
- Bodies of power and administration of subjects of the Russian Federation, municipalities; 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 foundations; representative offices of foreign companies.

4. SPECIAL REQUIREMENTS FOR POTENTIAL APPLICANTS

Applicants who have the first higher (first stage of higher) education in the profile of the master's program and who wish to improve their professional level and acquire additional competencies can enter the educational program. It is also possible to enroll applicants with non-core education in related fields (economics, natural sciences, etc.).

The applicant must have the appropriate competencies to master the program "Economics of natural resources management" (in English):

- to speak English at a level not lower than Intermediate;
- to own a culture of thinking, the ability to generalize, analyze, perceive information, set a goal and choose ways to achieve it;
- to 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 the willingness to bear responsibility for them;
- to be ready to perform professional functions when working in a team;
- to have basic fundamental training in the field of natural sciences and mathematics,
- to be able to apply information technology to solve technical problems,
- to be able to read and understand specialized technical literature.
- to have experience of participating in research projects in the field of training,
- to be able to systematize scientific information, process the received 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 is implemented by the Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia.

5.4. The programme can be adapted for the education of persons with disabilities.

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

Name of partner organisation	Interaction functionality
JSC EcoStandard group company Rosprirodnadzor ISEDC 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 ISEDC UNESCO Fracom LLC ANO MC RPPNSh
Research work	JSC EcoStandard group company Rosprirodnadzor ISEDC 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)"	С	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 анализа проектов расширения, реконструкции, модернизации действующих производств, создаваемых новых технологий и оборудования в организации)	С/01.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				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 pollutants into the environment, preparing proposals to prevent negative consequences (Установление причин и последствий аварийных выбросов и	C/04.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				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 modernization projects for existing production facilities, and the creation of new technologies and equipment within the organization (Проведение экологического анализа проектов	C/01.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				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 необходимых ресурсов для разработки, внедрения, поддержания и улучшения системы экологического менеджмента в организации)	D/03.7	7

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
				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 менеджмента организации)	D/06.7	7

* 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 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	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

Code and descriptor of generic competence	Code and competence level indicator
information (in the field of ecology and nature management) in the digital economy and modern corporate information culture	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 norms of professional ethics in the field of ecology and nature management	GPC -4.1 Knows the basics of environmental regulation and the basics of legislation in the field of 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

Code and descriptor of general professional competence	Code and competence level indicator
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 Ability to formulate problems, tasks and methods of scientific research, generalize 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 Able to generalize the results obtained, formulate conclusions and practical recommendations based on research results	40.117 "Environmental safety specialist (in industry)"
SPC-2 Ability to creatively use knowledge of fundamental and applied sections of special disciplines in production and technological activities	SPC-2.1 Ability to creatively use knowledge of fundamental and applied sections of special disciplines in production and technological activities SPC-2.2 Able to organize research in applied areas of environmental protection and interpret the results obtained	40.117 "Environmental safety specialist (in industry)"
SPC-3 Possession of the basics of design, expert-analytical activities and research using modern approaches and methods, equipment and	SPC-3.1 Able to plan the introduction of modern approaches and methods, equipment and computing systems to solve problems in the professional field PC-3.2 Owns the basics of design and expert-analytical activities	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
computer systems		
SPC-4 Able to use modern methods of processing and interpreting environmental information in scientific and industrial research	SPC-4.1 Able to apply modern methods of processing and interpreting environmental information when conducting industrial research SPC-4.2 Able to interpret the results of studies in terms of compliance with safety and performance indicators SPC-4.3 Has the skills to conduct control and supervisory activities based on modern methods of processing environmental information	40.117 "Environmental safety specialist (in industry)"
SPC-5 Able to develop standard environmental measures and assess the impact of planned facilities or other forms of economic activity on the environment	SPC-5.1 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 programs for the environmental modernization 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 conservation, develop practical recommendations for its protection and sustainable development	SPC-6.1 Capable of detecting inconsistencies in the state of environmental components with the requirements of national and international standards SPC-6.2 Able to develop programs for monitoring natural complexes under conditions of technogenic loads and programs for environmental rehabilitation of territories	40.117 "Environmental safety specialist (in industry)"

*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
B1.O	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
B1.O.01	Core component							
B1.O.01.01	IT in ecology and natural resources management / ИТ в экологии и управлении природными ресурсами	УК-1.1; УК-1.2						УК-7.1; УК-7.2
B1.O.01.02	Philosophical problems of natural sciences / Философские проблемы естественных наук					УК-5.1; УК-5.2	УК-6.1; УК-6.2	
B1.O.01.03	Methodology of Scientific Creation / Методология научных исследований						УК-6.1; УК-6.2	
B1.O.02	Variable component							
B1.O.02.01	Estimations of natural resources / Оценка природных ресурсов							
B1.O.02.02	Management of environmental-economic risks / Управление эколого-экономическими рисками		УК-2.1; УК-2.2	УК-3.2				

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.02.03	Management of natural resources / Управление природными ресурсами			УК-3.1; УК-3.2			УК-6.1; УК-6.2	
B1.O.02.04	Modern technologies for nature protection / Современные технологии защиты ОС							
B1.O.02.05	Industrial nature management and economics / Промышленное природопользование и экономика							
B1.O.02.06	Modern remediation technologies / Современные технологии рекультивации							
B1.O.02.07	Economic aspects of natural resources management / Экономические аспекты управления природными ресурсами							
B1.O.02.08	Management of energy resources / Управление энергетическими ресурсами						УК-6.1; УК-6.2	
B1.O.02.09	Environmental-economic aspects of environmental projects / Эколого-экономические аспекты экологических проектов							
B1.O.02.10	Environmental norms for sustainability / Экологические нормы для устойчивого развития							

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.02.11	MSW Recycling and Utilization Technics / Технологии рециклинга и утилизации ТКО							
B1.В.ДВ.01.01	History and methology of ecology and natural resources management / История и методология экологии и управления природными ресурсами							
B1.В.ДВ.01.02	International collaboration / Международное сотрудничество							
B1.В.ДВ.02.01	Standards of environmental management and occupational safety / Стандарты экологического менеджмента и безопасности труда							
B1.В.ДВ.02.02	Occupational safety and HSE-audit / Промышленная безопасность и охрана труда-аудит							
B1.В.ДВ.03.01	Environmental statistics / Статистика окружающей среды							
B1.В.ДВ.03.02	Environmental accounting and reporting / Экологический учет и отчетность							
B1.В.ДВ.04.01	Engineering ecology / Инженерная экология							

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.В.ДВ.04.02	Monitoring of environmental impacts / Мониторинг воздействия на окружающую среду							
B1.В.ДВ.05.01	Management of water resources / Управление водными ресурсами							
B1.В.ДВ.05.02	Surface water quality: modeling and management / Качество поверхностных вод: моделирование и управление							
B1.В.ДВ.06.01	Industrial safety / Промышленная безопасность							
B1.В.ДВ.06.02	Simulation and prevention of accidents / Моделирование промышленной безопасности и предотвращение несчастных случаев							
B2	Internship	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
B2.О.01.01(У)	Educational practice / Учебная практика	УК-1.1	УК-2.1	УК-3.1	УК-4.1	УК-5.1		УК-7.1
B2.О.02.01(П)	Work Experience Internship / Производственная практика	УК-1.1	УК-2.1	УК-3.1	УК-4.1	УК-5.1		УК-7.1
B2.О.02.02(Н)	Research Work / Научно-исследовательская работа	УК-1.1	УК-2.1	УК-3.1	УК-4.1	УК-5.1		УК-7.1; УК-7.2

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
Б2.В.01(ПД)	Pre-Graduation Practice / Преддипломная практика	УК-1.1	УК-2.1	УК-3.1	УК-4.1	УК-5.1		УК-7.1
В3	Final State Examination	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

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, geoecology 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
В1.0	Mandatory part	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
В1.0.01	Core component	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

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.
B1.O.01.01	IT in ecology and natural resources management / ИТ в экологии и управлении природными ресурсами					ОПК-5.1; ОПК-5.2	
B1.O.01.02	Philosophical problems of natural sciences / Философские проблемы естественных наук	ОПК-1.1; ОПК-1.2					
B1.O.01.03	Methodology of Scientific Creation / Методология научных исследований	ОПК-1.1; ОПК-1.2					ОПК-6.1; ОПК-6.2
B1.O.02	Variable component	ОПК-1.1; ОПК-1.2	ОПК-2.1; ОПК-2.2	ОПК-3.1; ОПК-3.2	ОПК-4.1; ОПК-4.2		
B1.O.02.01	Estimations of natural resources / Оценка природных ресурсов			ОПК-3.1; ОПК-3.2	ОПК-4.1; ОПК-4.2		
B1.O.02.02	Management of environmental-economic risks / Управление эколого-экономическими рисками				ОПК-4.1; ОПК-4.2		
B1.O.02.03	Management of natural resources / Управление природными ресурсами						
B1.O.02.04	Modern technologies for nature protection / Современные технологии защиты ОС		ОПК-2.1; ОПК-2.2	ОПК-3.1; ОПК-3.2			
B1.O.02.05	Industrial nature management and economics / Промышленное природопользование и экономика		ОПК-2.1; ОПК-2.2				
B1.O.02.06	Modern remediation technologies / Современные технологии рекультивации			ОПК-3.1; ОПК-3.2			

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.
B1.O.02.07	Economic aspects of natural resources management / Экономические аспекты управления природными ресурсами		ОПК-2.1; ОПК-2.2	ОПК-3.1; ОПК-3.2			
B1.O.02.08	Management of energy resources / Управление энергетическими ресурсами						
B1.O.02.09	Environmental-economic aspects of environmental projects / Эколого-экономические аспекты экологических проектов		ОПК-2.1	ОПК-3.1			
B1.O.02.10	Environmental norms for sustainability / Экологические нормы для устойчивого развития			ОПК-3.1; ОПК-3.2			
B1.O.02.11	MSW Recycling and Utilization Technics / Технологии рециклинга и утилизации ТКО			ОПК-3.1			
B1.В.ДВ.01.01	History and methodology of ecology and natural resources management / История и методология экологии и управления природными ресурсами						
B1.В.ДВ.01.02	International collaboration / Международное сотрудничество						
B1.В.ДВ.02.01	Standards of environmental management and occupational safety / Стандарты						

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, geoeology 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.
	экологического менеджмента и безопасности труда						
B1.В.ДВ.02.02	Occupational safety and HSE-audit / Промышленная безопасность и охрана труда-аудит						
B1.В.ДВ.03.01	Environmental statistics / Статистика окружающей среды						
B1.В.ДВ.03.02	Environmental accounting and reporting / Экологический учет и отчетность						
B1.В.ДВ.04.01	Engineering ecology / Инженерная экология						
B1.В.ДВ.04.02	Monitoring of environmental impacts / Мониторинг воздействия на окружающую среду						
B1.В.ДВ.05.01	Management of water resources / Управление водными ресурсами						
B1.В.ДВ.05.02	Surface water quality: modeling and management / Качество поверхностных вод: моделирование и управление						
B1.В.ДВ.06.01	Industrial safety / Промышленная безопасность						
B1.В.ДВ.06.02	Simulation and prevention of accidents / Моделирование промышленной						

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.
	безопасности и предотвращение несчастных случаев						
B2	Internship	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
Б2.О.01.01(У)	Educational practice / Учебная практика					ОПК-5.2	ОПК-6.1; ОПК-6.2
Б2.О.02.01(П)	Work Experience Internship / Производственная практика					ОПК-5.2	ОПК-6.1
Б2.О.02.02(Н)	Research Work / Научно-исследовательская работа	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
Б2.В.01(Пд)	Pre-Graduation Practice / Преддипломная практика	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
B3	Final State Examination	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

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-2.2	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-2.2	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.01	Core component						
B1.O.01.01	IT in ecology and natural resources management / ИТ в экологии и управлении природными ресурсами						
B1.O.01.02	Philosophical problems of natural sciences / Философские проблемы естественных наук						
B1.O.01.03	Methodology of Scientific Creation / Методология научных исследований						
B1.O.02	Variable component	ПК-1.1; ПК-1.2	ПК-2.1; ПК-2.2	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.02.01	Estimations of natural resources / Оценка природных ресурсов					ПК-5.1; ПК-5.2	
B1.O.02.02	Management of environmental-economic risks / Управление эколого-экономическими рисками					ПК-5.1; ПК-5.2	
B1.O.02.03	Management of natural resources / Управление природными ресурсами					ПК-5.1; ПК-5.2	
B1.O.02.04	Modern technologies for nature protection / Современные технологии защиты ОС			ПК-3.1; ПК-3.2			

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
B1.O.02.05	Industrial nature management and economics / Промышленное природопользование и экономика				ПК-4.1; ПК-4.2		
B1.O.02.06	Modern remediation technologies / Современные технологии рекультивации						ПК-6.1; ПК-6.2
B1.O.02.07	Economic aspects of natural resources management / Экономические аспекты управления природными ресурсами					ПК-5.1; ПК-5.2	
B1.O.02.08	Management of energy resources / Управление энергетическими ресурсами						ПК-6.1; ПК-6.2
B1.O.02.09	Environmental-economic aspects of environmental projects / Эколого-экономические аспекты экологических проектов	ПК-1.1; ПК-1.2					
B1.O.02.10	Environmental norms for sustainability / Экологические нормы для устойчивого развития			ПК-3.1; ПК-3.2			ПК-6.1; ПК-6.2
B1.O.02.11	MSW Recycling and Utilization Technics / Технологии рециклинга и утилизации ТКО					ПК-5.1; ПК-5.2	
B1.В.ДВ.01.01	History and methodology of ecology and natural resources management / История и методология экологии и управления природными ресурсами						ПК-6.2

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
B1.В.ДВ.01.02	International collaboration / Международное сотрудничество						ПК-6.2
B1.В.ДВ.02.01	Standards of environmental management and occupational safety / Стандарты экологического менеджмента и безопасности труда				ПК-4.1		ПК-6.2
B1.В.ДВ.02.02	Occupational safety and HSE-audit / Промышленная безопасность и охрана труда-аудит				ПК-4.1		ПК-6.2
B1.В.ДВ.03.01	Environmental statistics / Статистика окружающей среды				ПК-4.1	ПК-5.1	ПК-6.2
B1.В.ДВ.03.02	Environmental accounting and reporting / Экологический учет и отчетность				ПК-4.1	ПК-5.1	ПК-6.2
B1.В.ДВ.04.01	Engineering ecology / Инженерная экология		ПК-2.2				ПК-6.2
B1.В.ДВ.04.02	Monitoring of environmental impacts / Мониторинг воздействия на окружающую среду		ПК-2.2				ПК-6.2
B1.В.ДВ.05.01	Management of water resources / Управление водными ресурсами						ПК-6.1
B1.В.ДВ.05.02	Surface water quality: modeling and management / Качество поверхностных вод: моделирование и управление						ПК-6.1
B1.В.ДВ.06.01	Industrial safety / Промышленная безопасность						ПК-6.2

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
B1.В.ДВ.06.02	Simulation and prevention of accidents / Моделирование промышленной безопасности и предотвращение несчастных случаев						ПК-6.2
B2	Internship	ПК-1.1; ПК-1.2					
Б2.О.01.01(У)	Educational practice / Учебная практика	ПК-1.1; ПК-1.2					
Б2.О.02.01(П)	Work Experience Internship / Производственная практика	ПК-1.1; ПК-1.2					
Б2.О.02.02(Н)	Research Work / Научно-исследовательская работа	ПК-1.1; ПК-1.2					
Б2.В.01(Пд)	Pre-Graduation Practice / Преддипломная практика	ПК-1.1; ПК-1.2					
B3	Final State Examination	ПК-1.1; ПК-1.2	ПК-2.1; ПК-2.2	ПК-3.1; ПК-3.2	ПК-4.1; ПК-4.2	ПК-5.1; ПК-5.2	ПК-6.1; ПК-6.2