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

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

Approved at the meeting of the Academic Council of RUDN University
Protocol No. 12
June 17, 2024
(date, month, year)

Opened by order of the Rector of RUDN University No. 591
November 05, 2024
(date, month, year)

PROFESSIONAL EDUCATION PROGRAMME OF HIGHER EDUCATION

Field of Studies/ Speciality:

05.04.01 Geology
field of studies / speciality code and title

Profile/Specialisation:

Mining Geology
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 21.05.2021
(day, month, 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 specifics of the programme: **Network form of education – joint educational programme with University of Dar es Salaam**

AGREED by:

Head of Educational Programme	Chairperson of Didactic Council	Head of Educational Department
A.E. Kotelnikov	A.E. Kotelnikov	Yu.N. Razoumny
(signature)	(signature)	(signature)
(day, month, year)	(day, month, year)	(day, month, year)

2025

1. EDUCATIONAL PROGRAMME GOAL (MISSION)

The aims of the Educational Progamme are agreed with the mission of the University and are formulated taking into account the Educational Standard of RUDN University and employers' recommendations. The objectives are aimed at the development of students' personal qualities, preparation of highly qualified competent geologists (geological engineer, geophysical engineer, hydrogeological engineer, geological technician) who have knowledge, skills and abilities in the field of mining and industrial geology.

Objectives of the Educational Programme:

Aim 1. Ability to conduct research activities in the field of geology, geophysics and hydrogeology using digital technologies and effective solutions.

Aim 2. Ability to carry out organizational and managerial activities in the field of mining geology (hydrogeological study of the territory at the stage of exploration and development of the mineral deposit, geological study of the subsoil area at various stages of its development).

Aim 3. Ability of graduates to self-study and continuous professional development.

Aim 4. The ability to demonstrate professional qualities, regardless of nationality, race and religion, to work successfully in the chosen field of activity and be competitive in the labor market, as well as to become a leader who can make the world a better place.

In the field of personal development goals of the master's programme are aimed at forming individuals who are patriots of their countries and friends of Russia, introduced to the achievements of world culture, carrying the ideals of humanism, democracy and friendship among peoples, education of young people capable of working successfully in any country of the world and to show their creative abilities in the interconnection of civilizations and the diversity of modern society, as well as combining knowledge of different nationalities, races and religions.

In the field of education, the goals of the master's programme "Mining Geology" are aimed at formation of universal, general professional and professional competencies that allow the graduate to work successfully in the chosen field of activity and to be competitive in the labor market, as well as to become a leader who can make the world a better place.

2. EDUCATIONAL PROGRAMME RELEVANCE, SPECIFICITY, AND UNIQUENESS

During the training students form competences of a modern geologist (geological engineer, geophysical engineer, hydrogeological engineer, geological technician), researcher, production engineer. Students develop skills of complex analysis and digital processing of geological, geophysical, hydrogeological and mining information, acquire skills of independent research and organizational and managerial work.

The Programme is focused not only on teaching the traditional methods of solving standard geological problems, but also on an effective integrated approach to the choice of different methods to achieve the most effective results in solving geological, mining and hydrogeological problems. To this aim the students:

– learn to understand analog and digital geological, geophysical, and hydrogeological data;

– form understanding and purpose of modern methods of geological-geophysical, hydrogeological, mining research and information processing, and develop skills of their application in solving urgent issues of mining geology;

– develop the ability to navigate in specialized mining and geological programs (Micromine, GEOMIX, ArcGIS, QGIS, etc.) and effectively use their capabilities.

During the training, along with the traditional types of classes, there are:

– seminar sessions in the form of round table / presentations, report and subsequent discussion / etc.;

– individual or team solutions to small situational tasks (mini-cases).

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

Development of deposits of solid minerals, plays an important role in many countries, including Tanzania, and the issues of studying geological factors and characteristics (spatial-morphological, volume-quality, hydrogeological and engineering-geological) that determine the possibility, feasibility and conditions of industrial development of geological objects, are relevant and significant. This contributes to the development of this industry and increases the demand for highly qualified graduates - geologists (geological engineer, geophysical engineer, hydrogeological engineer, geological engineer-technician).

Graduates are oriented to work in Russian and international companies and research centers specializing in the development of deposits of solid minerals, including uranium deposits. For example, Rosatom State Corporation (Rosatom State Nuclear Energy Corporation), JSC Uranium One Group.

4. SPECIAL REQUIREMENTS FOR POTENTIAL APPLICANTS

For admission to the Educational Programme, there are Admission Rules approved by the relevant local normative act and available on the official website of RUDN University.

The specifics of admission are determined by the agreement between Peoples' Friendship University of Russia (RUDN University) and the University of Dar es Salaam (UDMS), Tanzania, on the implementation of the programme.

Candidates for the programme can be agreed by a special commission represented by the representatives of RUDN University and the UDMS.

5. FEATURES OF EDUCATIONAL PROGRAMME IMPLEMENTATION

5.1. The Educational Programme is implemented with elements of distance learning and e-learning technologies of through the Telecommunication Educational and Information System of the Peoples' Friendship University of Russia (TUIS).

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

5.3. If required, the Educational Programme may be adapted for the education of disabled people and people with disabilities. Elements of e-learning and distance education technologies used in the training of disabled people and people with disabilities provide for the possibility of receiving and transmitting information in accessible forms.

5.4. The Educational Programme is implemented by the Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia named after Patrice Lumumba" (RUDN University) together with the University of Dar es Salaam (UDMS).

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

Name of partner organisation	Interaction functionality
JSC "ZARUBEZHGEOLOGIA"	Interaction on the issues of internships
Federal State Budgetary Institution "Russian Federal Geological Fund"	Interaction on the issues of internships
Rosatom State Corporation (Rosatom State Nuclear Energy Corporation)	Support of scientific work of students (collection of geological, geophysical, hydrogeological mining materials). Interaction on the issues of internships
JSC Uranium One Group	Support of scientific work of students (collection of geological, geophysical, hydrogeological mining materials). Interaction on the issues of internships

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

Internship	Internship location
Academic Internship (Fundamentals of Scientific Research) (educational, inside internship)	RUDN University, Moscow; JSC "ZARUBEZHGEOLOGIA", Moscow; FSBI "Russian Federal Geological Fund", Moscow
Academic internship (Introductory internship) (educational, inside/ outside internship)	RUDN University, Moscow; MISIS University, Moscow; Rosatom State Corporation, Moscow or Mining object in Russia; JSC "ZARUBEZHGEOLOGIA", Moscow; FSBI "Russian Federal Geological Fund", Moscow
Work Experience Internship (industrial, outside internship)	University of Dar es Salaam, Tanzania; JSC Uranium One Group, Tanzania
Research Work (industrial, inside internship)	University of Dar es Salaam, Tanzania; JSC Uranium One Group, Tanzania
Pre-Graduation Practice (industrial, inside internship)	University of Dar es Salaam, Tanzania

6. CHARACTERISTICS OF EDUCATIONAL PROGRAMME GRADUATE'S PROFESSIONAL ACTIVITIES

6.1. The fields of professional activities of the Educational Programme graduate, where he/she can carry out his/her professional activities:

- 01 Education and science (in the field of scientific research of structure, geological, hydrogeological and mining-industrial characteristics of solid minerals deposits, geophysical fields; research of natural and technogenic geological processes occurring during the development of deposits);
- 40 Cross-cutting types of professional activity in industry (in the field of scientific research of structure, geological, hydrogeological and mining characteristics of deposits of solid minerals, geophysical fields; research of natural and technogenic geological processes occurring during the development of deposits).

Graduates can carry out professional activity in other areas of professional activity and (or) spheres of professional activity, provided that the level of their education and received competencies meet the requirements for the qualification of the employee.

6.2. The types of professional activities tasks, which the graduate is trained to solve when mastering the Educational Programme:

- research-and-production (main);
- organizational and managerial.

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)
40.011 Specialist in research and	B	Carrying out research and	Higher education -	Carrying out processing and	B/02.6	6

Code and title of occupational standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Type	Code	Qualification level (sublevel)
development and experimental development		development in the study of independent topics	specialist, master's degree	analysis of scientific and technical information and research results		

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
Systemic and critical thinking. GC-1. Able to critically analyze problem situations on the basis of a systematic approach, develop a strategy of action.	GC-1.1. Analyzes the problem, identifying its basic components; GC-1.2. Performs information retrieval for solving the task by various types of inquiries; GC-1.3. Suggests options for solving the problem, analyzes the possible consequences of their use.
Project development and implementation. GC-2. Able to manage a project at all stages of its life cycle.	GC-2.1. Formulates a problem whose solution is directly related to the achievement of the project goal; GC-2.2 Identifies the connections between the tasks and the expected results of their solution; GC-2.3 Identifies the available resources and constraints within the assigned tasks and the applicable legal regulations.
Teamwork and leadership. GC-3. Able to organize and manage the work of the team, developing a team strategy to achieve the goal.	GC-3.1 Defines his/her role in the team based on a collaborative strategy to achieve the goal; GC-3.2 Exchanges information, knowledge, and experience with team members; GC-3.3 Argues his/her point of view regarding the use of other team members' ideas to achieve the goal set.
Communications. GC-4. Able to carry out modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction.	GC-4.1. Searches for necessary information to solve standard communicative tasks in Russian and foreign languages; GC-4.2. Conducts business correspondence in Russian and foreign languages, taking into account the stylistics of official and unofficial letters and socio-cultural differences in correspondence format; GC-4.3. Uses dialogue for cooperation in academic communication taking into account the personality of interlocutors, their communicative and verbal strategies and tactics, the degree of officiality of the situation.
Intercultural interaction. GC-5. Able to analyze and take into account the diversity of cultures in the process of intercultural interaction.	GC-5.1 Finds and uses in social and professional communication information about the cultural characteristics and traditions of different social groups; GC-5.2. Gathers information on a given topic, taking into account ethnicities and religions most widely represented in the places of research;

Code and descriptor of generic competence	Code and competence level indicator
	GC-5.3 Adheres to the principles of non-discriminatory interaction in personal and mass communication in order to fulfill professional tasks and enhance social integration.
Self-organization and self-development. GC-6. Able to identify and implement the priorities of their own activities and ways to improve it based on self-assessment.	GC-6.1 Controls the amount of time spent on specific activities; GC-6.2. Develops time management tools and methods for accomplishing specific tasks, projects, and goals; GC-6.3 Analyzes one's resources and their limits (personal, situational, time, etc.) to successfully complete the assigned task.
Digital Intelligence. Capable: - of searching for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; - of evaluating information, its reliability, build logical conclusions based on incoming information and data.	GC-7.1 Searches for relevant sources of information and data, perceives, analyzes, remembers and communicates information using digital tools and algorithms when working with data from various sources in order to effectively use the information to solve problems; GC-7.2 Evaluates information, its reliability, and draws logical conclusions from incoming information and data.

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. Capable of using the theoretical foundations of special and new sections of geological sciences to solve professional activity problems.	GPC-1.1. Knows the fundamentals of special and new sections of geological sciences; GPC-1.2. Selects a method or methodology for solving a professional problem; GPC-1.3. Knows how to select a method or methodology for solving a professional problem.
GPC-2. Able to independently formulating the research objectives and establishing a sequence for resolving professional problems.	GPC-2.1. Knows the basics and methods of organizing research activities, methods of setting goals and methods of achieving them; GPC-2.2. Knows how to develop research methods; GPC-2.3. Has methods of establishing cause-effect relationships and identifying the most significant among them and skills of independent formulation of research objectives.

Code and descriptor of general professional competence	Code and competence level indicator
GPC-3. Accomplished of totally independent generalizing the results obtained while solving professional problems and developing recommendations for their practical application.	GPC-3.1 Knows the theoretical foundations of the generalization of results and development of recommendations; GPC-3.2. Knows how to summarize the results obtained in the process of solving professional tasks, develop recommendations for their practical use; GPC-3.3. Has the skills to summarize the results obtained in the process of solving professional tasks and develop recommendations for their practical use.
GPC-4. Suitable of representing, protecting, and disseminating the outcomes of their professional activities.	GPC-4.1 Knows the main results of his/her scientific activity, methods of their presentation, protection and dissemination; GPC-4.2. Knows how to understand and analyze the results of professional activities, use own scientific achievements. discuss and disseminate the results of their professional activities; GPC-4.3. Has the skills to analyze, discuss and disseminate the results of professional activities.
GPC-5. Proficient of conducting critical analysis and utilizing a systematic approach in the field of digital economy.	GPC-5.1. Knows the basics of digital economy, basic methods of critical analysis, principles of systems approach; GPC-5.2. Knows how to critically analyze information, understand the principles of systems approach; GPC-5.3. Knows how to critically analyze and apply systems approach to the digital economy.

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
PC-1. Capable of processing geological data, modeling ore bodies with modern software, resolving quality and mineral reserve management issues, and developing engineering and geological surveying measures for the territory.	PC-1.1. Knows the basics of geological structure of ore deposits, the possibility of using specialized software; PC-1.2. Knows how to apply methods of geological data processing, build ore body models, solve problems on quality and mineral reserves management, develop measures for engineering and geological study of the territory; PC-1.3. Has the skills to process geological data and construct ore body models using modern software.	40.011 Specialist in research and development and experimental development
PC-2. Capable of justifying the need, choosing the best methodology, planning, implementing, interpreting results, and supervising geophysical work at	PC-2.1. Knows the theoretical basics of geophysical research; PC-2.2 Knows how to select the best methodology, design, implement, interpret the results of geophysical works; PC-2.3 Knows how to justify and select optimal methodology, manage geophysical work at different stages of subsoil area development.	40.011 Specialist in research and development and experimental development

Code and descriptor of professional competence	**Code and competence level indicator**	**Code and title of occupational standard** for relevant PC
various stages of mineral site development.		
PC-3. Capable of projecting, implementing, and managing a hydrogeological study of the territory during the exploration and development of a mineral deposit.	PC-3.1 Knows the theoretical foundations and methods of hydrogeological study of the territory at the stage of exploration and development of mineral deposits; PC-3.2 Knows how to apply methodological solutions in the design, implementation and management of hydrogeological study of the territory at the stage of exploration and development of mineral deposits; PC-3.3 Knows how to apply the knowledge and skills obtained in the design, implementation and management of the hydrogeological study of the territory at the stage of exploration and development of mineral deposits.	40.011 Specialist in research and development and experimental development
PC-4. Capable of designing, assisting with, and supervising a geologic study of a subsoil area at various stages of development.	PC-4.1 Knows the theoretical basis and methods of geological study of the subsoil area at various stages of its development; PC-4.2 Knows how to apply methodological solutions in the design and implementation of the geological study of a subsoil area at various stages of its development; PC-4.3 Knows how to apply the acquired knowledge and skills in the design, support and management of the geological study of a subsoil area at various stages of its development.	40.011 Specialist in research and development and experimental development

8. MATRIX OF COMPETENCIES that students acquire when mastering the Educational Programme "Mining Geology" in the higher education field 05.04.01 Geology

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy.	GC-2. Able to manage a 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 carry out modern communication technologies in the state language of the Russian Federation and 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 identify and implement the priorities of their own activities and ways to improve it based on self-assessment.	GC-7. Capable: - of searching for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; - of evaluating information, its reliability, build logical conclusions based on incoming information and data.
Block 1.	**Disciplines (modules)**							
B1.C	**Compulsory part**							
B1.C.01	**Base Component**							
B1.C.01.01	Professional Russian (as a Foreign Language)				GC-4.1; GC-4.2; GC-4.3	GC-5.1; GC-5.2; GC-5.3		
B1.C.01.02	Regional Geology. Geology of Central and Southern Africa					GC-5.1; GC-5.2; GC-5.3		
B1.C.02	**Variable Component**							
B1.C.02.01	**Geological and Geophysical Module**							

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy.	GC-2. Able to manage a 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 carry out modern communication technologies in the state language of the Russian Federation and 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 identify and implement the priorities of their own activities and ways to improve it based on self-assessment.	GC-7. Capable: - of searching for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; - of evaluating information, its reliability, build logical conclusions based on incoming information and data.
B1.C.02.01.01	Digital Technologies in Geology	GC-1.1; GC-1.2; GC-1.3						GC-7.1; GC-7.2
B1.C.02.01.02	Geological and Geophysical Basics of Mineral Prospecting and Exploration						GC-6.1; GC-6.2; GC-6.3	
B1.C.02.01.03	Geoinformation Systems for Geology Based on Space Imagery	GC-1.1; GC-1.2; GC-1.3						
B1.C.02.01.04	Innovative Methods of Remote Research in Geology	GC-1.1; GC-1.2; GC-1.3						
B1.C.02.02	**Mining Geology Module**							
B1.C.02.02.01	Engineering and Geological Support of Subsoil Use							

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy.	GC-2. Able to manage a 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 carry out modern communication technologies in the state language of the Russian Federation and 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 identify and implement the priorities of their own activities and ways to improve it based on self-assessment.	GC-7. Capable: - of searching for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; - of evaluating information, its reliability, build logical conclusions based on incoming information and data.
B1.C.02.02.02	Mining Geology						GC-6.1; GC-6.2; GC-6.3	
B1.C.02.02.03	Modelling of Mineral Deposits		GC-2.1; GC-2.2; GC-2.3				GC-6.1; GC-6.2; GC-6.3	GC-7.1; GC-7.2
B1.C.02.02.04	Sustainable Mining			GC-3.1; GC-3.2; GC-3.3				
B1.C.02.03	**Hydrogeological Module**							
B1.C.02.03.01	Mining Hydrogeology							
B1.C.02.03.02	Applied Groundwater Modeling		GC-2.1; GC-2.2; GC-2.3					
B1.B	**University Disciplines Module**							

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy.	GC-2. Able to manage a 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 carry out modern communication technologies in the state language of the Russian Federation and 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 identify and implement the priorities of their own activities and ways to improve it based on self-assessment.	GC-7. Capable: - of searching for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; - of evaluating information, its reliability, build logical conclusions based on incoming information and data.
B1.B.E.01	**Electives (Mining Geology Module)**							
B1.B.E.01.01	Technologies of Development of Mineral Deposits			GC-3.1; GC-3.2; GC-3.3				
B1.B.E.01.02	Management of Reserves and Quality of Mineral Raw Materials			GC-3.1; GC-3.2; GC-3.3				
Block 2	**Practice**							
B2.C	**Compulsory part**							
B2.C.01	**Base Component**							
B2.C.01.01(E)	Academic Internship (Fundamentals of Scientific Research)						GC-6.1; GC-6.2; GC-6.3	
B2.C.01.02(E)	Academic internship (Introductory internship)							
B2.C.02	**Variable Component**							

Code	Courses/modules that form students' competences	GENERIC COMPETENCES						
		GC-1. Able to search, critical analysis of problem situations based on a systematic approach, develop an action strategy.	GC-2. Able to manage a 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 carry out modern communication technologies in the state language of the Russian Federation and 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 identify and implement the priorities of their own activities and ways to improve it based on self-assessment.	GC-7. Capable: - of searching for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data received from various sources in order to effectively use the information received to solve problems; - of evaluating information, its reliability, build logical conclusions based on incoming information and data.
B2.C.02.01(M)	Work Experience Internship							
B2.C.02.02(R)	Research Work							
B2.B	**University Disciplines Module**							
B2.B.01(PG)	Pre-Graduation Practice							
Block 3	**Final State Examination**	GC-1.1, GC-1.2, GC-1.3	GC-2.1, GC-2.2, GC-2.3	GC-3.1, GC-3.2, GC-3.3	GC-4.1, GC-4.2, GC-4.3	GC-5.1, GC-5.2, GC-5.3	GC-6.1, GC-6.2, GC-6.3	GC-7.1, GC-7.2
AD	**Additional disciplines**							
AD.01	Russian as a Foreign Language				GC-4.1, GC-4.2, GC-4.3			
AD.02	Information Databases	GC-1.1, GC-1.2						

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES				
		GPK-1. Capable of using the theoretical foundations of special and new sections of geological sciences to solve professional activity problems.	GPK-2. Able to independently formulating the research objectives and establishing a sequence for resolving professional problems.	GPK-3. Accomplished of totally independent generalizing the results obtained while solving professional problems and developing recommendations for their practical application.	GPK-4. Suitable of representing, protecting, and disseminating the outcomes of their professional activities.	GPK-5. Proficient of conducting critical analysis and utilizing a systematic approach in the field of digital economy.
Block 1.	**Disciplines (modules)**					
B1.C	**Compulsory part**					
B1.C.01	**Base Component**					
B1.C.01.01	Professional Russian (as a Foreign Language)					
B1.C.01.02	Regional Geology. Geology of Central and Southern Africa					
B1.C.02	**Variable Component**					
B1.C.02.01	**Geological and Geophysical Module**					
B1.C.02.01.01	Digital Technologies in Geology				GPC-4.1; GPC-4.2; GPC-4.3	
B1.C.02.01.02	Geological and Geophysical Basics of Mineral Prospecting and Exploration	GPC-1.1, GPC-1.2, GPC-1.3	GPC-2.1, GPC-2.2, GPC-2.3			
B1.C.02.01.03	Geoinformation Systems for Geology Based on Space Imagery					
B1.C.02.01.04	Innovative Methods of Remote Research in Geology					
B1.C.02.02	**Mining Geology Module**					
B1.C.02.02.01	Engineering and Geological Support of Subsoil Use	GPC-1.1, GPC-1.2, GPC-1.3				

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES				
		GPK-1. Capable of using the theoretical foundations of special and new sections of geological sciences to solve professional activity problems.	GPK-2. Able to independently formulating the research objectives and establishing a sequence for resolving professional problems.	GPK-3. Accomplished of totally independent generalizing the results obtained while solving professional problems and developing recommendations for their practical application.	GPK-4. Suitable of representing, protecting, and disseminating the outcomes of their professional activities.	GPK-5. Proficient of conducting critical analysis and utilizing a systematic approach in the field of digital economy.
B1.C.02.02.02	Mining Geology	GPC-1.1, GPC-1.2, GPC-1.3				
B1.C.02.02.03	Modelling of Mineral Deposits		GPC-2.1, GPC-2.2, GPC-2.3			
B1.C.02.02.04	Sustainable Mining			GPC-3.1; GPC-3.2; GPC-3.3	GPC-4.1; GPC-4.2; GPC-4.3	GPC-5.1, GPC-5.2, GPC-5.3
B1.C.02.03	**Hydrogeological Module**					
B1.C.02.03.01	Mining Hydrogeology	GPC-1.1, GPC-1.2, GPC-1.3				
B1.C.02.03.02	Applied Groundwater Modeling		GPC-2.1, GPC-2.2, GPC-2.3			
B1.B	**University Disciplines Module**					
B1.B.E.01	**Electives (Mining Geology Module)**					
B1.B.E.01.01	Technologies of Development of Mineral Deposits					
B1.B.E.01.02	Management of Reserves and Quality of Mineral Raw Materials					
Block 2	**Practice**					

Code	Courses/modules that form students' competences	GENERAL PROFESSIONAL COMPETENCES				
		GPK-1. Capable of using the theoretical foundations of special and new sections of geological sciences to solve professional activity problems.	GPK-2. Able to independently formulating the research objectives and establishing a sequence for resolving professional problems.	GPK-3. Accomplished of totally independent generalizing the results obtained while solving professional problems and developing recommendations for their practical application.	GPK-4. Suitable of representing, protecting, and disseminating the outcomes of their professional activities.	GPK-5. Proficient of conducting critical analysis and utilizing a systematic approach in the field of digital economy.
B2.C	**Compulsory part**					
B2.C.01	**Base Component**					
B2.C.01.01(E)	Academic Internship (Fundamentals of Scientific Research)					
B2.C.01.02(E)	Academic internship (Introductory internship)					
B2.C.02	**Variable Component**					
B2.C.02.01(M)	Work Experience Internship	GPC-1.1, GPC-1.2, GPC-1.3	GPC-2.1, GPC-2.2, GPC-2.3	GPC-3.1, GPC-3.2, GPC-3.3	GPC-4.1, GPC-4.2, GPC-4.3	
B2.C.02.02(R)	Research Work	GPC-1.1, GPC-1.2, GPC-1.3	GPC-2.1, GPC-2.2, GPC-2.3	GPC-3.1, GPC-3.2, GPC-3.3	GPC-4.1, GPC-4.2, GPC-4.3	
B2.B	**University Disciplines Module**					
B2.B.01(PG)	Pre-Graduation Practice					
Block 3	**Final State Examination**	GPC-1.1, GPC-1.2, GPC-1.3	GPC-2.1, GPC-2.2, GPC-2.3	GPC-3.1, GPC-3.2, GPC-3.3	GPC-4.1, GPC-4.2, GPC-4.3	GPC-5.1, GPC-5.2, GPC-5.3
AD	**Additional disciplines**					
AD.01	Russian as a Foreign Language					
AD.02	Information Databases					

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCIES			
		PC-1. Capable of processing geological data, modeling ore bodies with modern software, resolving quality and mineral reserve management issues, and developing engineering and geological surveying measures for the territory.	PC-2. Capable of justifying the need, choosing the best methodology, planning, implementing, interpreting results, and supervising geophysical work at various stages of mineral site development.	PC-3. Capable of projecting, implementing, and managing a hydrogeological study of the territory during the exploration and development of a mineral deposit.	PC-4. Capable of designing, assisting with, and supervising a geologic study of a subsoil area at various stages of development.
Block 1.	**Disciplines (modules)**				
B1.C	**Compulsory part**				
B1.C.01	**Base Component**				
B1.C.01.01	Professional Russian (as a Foreign Language)				
B1.C.01.02	Regional Geology. Geology of Central and Southern Africa		PC-2.1, PC-2.2		PC-4.1, PC-4.2
B1.C.02	**Variable Component**				
B1.C.02.01	**Geological and Geophysical Module**				
B1.C.02.01.01	Digital Technologies in Geology	PC-1.1			
B1.C.02.01.02	Geological and Geophysical Basics of Mineral Prospecting and Exploration	PC-1.1, PC-1.2	PC-2.1, PC-2.2		PC-4.1, PC-4.2, PC-4.3
B1.C.02.01.03	Geoinformation Systems for Geology Based on Space Imagery				
B1.C.02.01.04	Innovative Methods of Remote Research in Geology				
B1.C.02.02	**Mining Geology Module**				
B1.C.02.02.01	Engineering and Geological Support of Subsoil Use	PC-1.2			
B1.C.02.02.02	Mining Geology		PC-2.1, PC-2.2	PC-3.1, PC-3.2, PC-3.3	PC-4.1, PC-4.2, PC-4.3
B1.C.02.02.03	Modelling of Mineral Deposits	PC-1.1,	PC-2.1,		PC-4.1,

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCIES			
		PC-1. Capable of processing geological data, modeling ore bodies with modern software, resolving quality and mineral reserve management issues, and developing engineering and geological surveying measures for the territory.	PC-2. Capable of justifying the need, choosing the best methodology, planning, implementing, interpreting results, and supervising geophysical work at various stages of mineral site development.	PC-3. Capable of projecting, implementing, and managing a hydrogeological study of the territory during the exploration and development of a mineral deposit.	PC-4. Capable of designing, assisting with, and supervising a geologic study of a subsoil area at various stages of development.
		PC-1.2, PC-1,3	PC-2.2		PC-4.2
B1.C.02.02.04	Sustainable Mining				
B1.C.02.03	**Hydrogeological Module**				
B1.C.02.03.01	Mining Hydrogeology		PC-2.1, PC-2.2	PC-3.1, PC-3.2, PC-3.3	PC-4.1, PC-4.2
B1.C.02.03.02	Applied Groundwater Modeling			PC-3.1, PC-3.2, PC-3.3	
B1.B	**University Disciplines Module**				
B1.B.E.01	**Electives (Mining Geology Module)**				
B1.B.E.01.01	Technologies of Development of Mineral Deposits				
B1.B.E.01.02	Management of Reserves and Quality of Mineral Raw Materials				
Block 2	**Practice**				
B2.C	**Compulsory part**				
B2.C.01	**Base Component**				
B2.C.01.01(E)	Academic Internship (Fundamentals of Scientific Research)		PC-2.2		PC-4.2
B2.C.01.02(E)	Academic internship (Introductory internship)	PC-1.2	PC-2.2		
B2.C.02	**Variable Component**				

Code	Courses/modules that form students' competences	PROFESSIONAL COMPETENCIES			
		PC-1. Capable of processing geological data, modeling ore bodies with modern software, resolving quality and mineral reserve management issues, and developing engineering and geological surveying measures for the territory.	PC-2. Capable of justifying the need, choosing the best methodology, planning, implementing, interpreting results, and supervising geophysical work at various stages of mineral site development.	PC-3. Capable of projecting, implementing, and managing a hydrogeological study of the territory during the exploration and development of a mineral deposit.	PC-4. Capable of designing, assisting with, and supervising a geologic study of a subsoil area at various stages of development.
B2.C.02.01(M)	Work Experience Internship	PC-1.2, PC-1,3	PC-2.2, PC-2.3	PC-3.3	PC-4.2, PC-4.3
B2.C.02.02(R)	Research Work	PC-1.2, PC-1,3	PC-2.2, PC-2.3	PC-3.3	PC-4.2, PC-4.3
B2.B	**University Disciplines Module**				
B2.B.01(PG)	Pre-Graduation Practice	PC-1.1, PC-1.2, PC-1,3	PC-2.2, PC-2.3	PC-3.2, PC-3.3	PC-4.2, PC-4.3
Block 3	**Final State Examination**	PC-1.1, PC-1.2, PC-1,3	PC-2.1, PC-2.2, PC-2.3	PC-3.1, PC-3.2, PC-3.3	PC-4.1, PC-4.2, PC-4.3
AD	**Additional disciplines**				
AD.01	Russian as a Foreign Language				
AD.02	Information Databases				