Документ подписан простой электронной подписью

Информация о владельце:

ФИО: Ястребов Олег Алексан Prederal State Autonomous Educational Institution of Higher Education

Должность: Ректор PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA

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**RUDN** University

# Academy of engineering

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

### Department of Subsoil Use and Oil and Gas Engineering

(department realizing the PhD program)

## SCIENTIFIC RESEARCH PLAN

Scientific specialty:

1.6.9. Geophysics

1.6.10. Geology, prospecting, and exploration of solid minerals, minerageny 1.6.11. Geology, prospecting, exploration and exploitation of oil and gas fields

(scientific speciality code and title)

The course instruction is implemented within the PhD programmes:

Geophysics

Geology, prospecting, and exploration of solid minerals, minerageny Geology, prospecting, exploration and exploitation of oil and gas fields

(PhD program title)

#### 1. DISIPLINE (MODULE) GOAL

The purpose of carrying out scientific research (carrying out scientific activities) is to prepare a dissertation for the scientific degree of Candidate of Sciences for defense.

# 2. REQUIREMENTS FOR LEARNING OUTCOMES

The solution of a scientific problem of importance for the development of the corresponding branch of science or the development of a new scientifically justified technical, technological or other solution of significant importance for the development of the country.

Preparation of the thesis for the defense includes the implementation of an individual plan of scientific activity, writing, registration and presentation of the thesis for the final attestation.

Plan of scientific activity includes a sample plan of scientific research, plan of dissertation preparation and publications, in which the main scientific results of the dissertation are set out, as well as a list of stages of mastering the scientific component of the graduate program, the distribution of these stages and the final certification of graduate students.

The plan of scientific activities of a particular student is approved in the individual plan of scientific activities of the graduate student, the requirements to which are established by the relevant local normative act of PFUR.

#### 3. WORKLOAD OF THE DISCIPLINE AND TYPES OF ACTIVITIES

The overall workload of the scientific research is 150 credits (5400 academic hours).

#### 4. RESEARCH CONTENTS

Stages	Stage content (types of activities)	Workload, acad. hours		
First Year				
Research activity aimed at preparing for a	Theme 1: Choosing the topic of the dissertation dissertation plan	1476		
thesis defense	Theme 2: Structure development and drafting Theme 3: Preparing a review of the dissertation topic			
	Theme 4: Making a bibliography on the topic of the			
	dissertation based on stock materials, monographs, scientific collections, domestic and foreign			
	periodicals, as well as Internet resources (not less than 150 sources)			
	Organization and conduct of experiments. Theme 1: Collection, processing and analysis of scientific and statistical information on the topic of the dissertation work on stock and published works.			
	Theme 2: Material, methodology and conditions for conducting experiments			
	Theme 3: Primary documentation of observations and experimental data.			
	Theme 4: Gathering empirical material (based on observations, experimental data).			
Publication Activity	Theme 1: Analysis of domestic and foreign Publications of scientific periodicals included in Scopus databases	216		
	Theme 2: Selection of domestic and foreign Publications on the topic of the dissertation			
	Theme 3: Studying the requirements for publications in periodicals of the Web of Science database			
Intermediate certification	an personal of the first of Severite diffusions	72		
Second year				
	Organization and conduct of experiments.	1404		

Research activity aimed at	Theme 1: Collection, processing and analysis of	
preparing for a	scientific and Statistical information on the topic of the	
thesis defense	dissertation work on stock and published works.	
thesis defense	Theme 2: Material, methodology and conditions for	
	conducting experiments	
	Theme 3: Primary documentation of observations and	
	experimental data.	
	Theme 4: Gathering empirical material (based on observations, experimental data).	
	Methods and ways of processing empirical materials. Theme 5: Graphic methods of processing materials.	
	Theme 6: Statistical methods of material processing.	
	Theme 7: Computer models.	
	Analysis and interpretation of empirical material.	
	Topic 8: Analysis and interpretation of empirical	
	Computer-based materials for local objects.	
	Theme 9: Identification and formulation of natural laws	
	characteristic of local objects.	
	Theme 10. Analysis and interpretation of empirical	
	materials based on computer technology for regional	
	sites.	
	Theme 11. Identification and formulation of natural	
	laws characteristic of regional objects.	
	Preparation of the thesis:	
	Theme 1: Formulation of defensible scientific	
	statements on the topic of the dissertation.	
	Theme 2: Writing Dissertation Chapters	
	Theme 3: Making a list of literary sources and making	
	references to them in the text dissertation	
	Theme 1: Selection of domestic and foreign	
	Publications on the topic of the dissertation Theme 2: Preparing manuscripts of articles for	
Publication Activity	Publication in periodicals of the bases	216
	Theme 3: Presentations at scientific	
	conferences and meetings on theses topics	
Intermediate certification	ominion and movings on thoses topics	72
	mom. v	4.60
	TOTAL:	1692
	3 course	
	Preparation of the dissertation:	
	Theme 1: Writing Dissertation Chapters	
	Theme 2: Making a list of literary sources and making	
	references to them in the text of the dissertation	
	Theme 3: Preparation of the Dissertation Text	
D 1 4: 14 1 1 4	Theme 4: Preparation of the text of the abstract	
Research activity aimed at	Theme 5: Preparation of the Report and Preliminary	1.65.6
preparing for a	Defense of the Dissertation	1656
thesis defense	Theme 6: Preparation of Documents Required for	
	Defense at the Academic Dissertation Council	
	Theme 7: Selecting the opposing scientific organization	
	and providing it with the materials of the thesis	
	Theme 8: Selection of scientific opponents and	
	providing them with materials of the dissertation work.	
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	Total academic hours of scientific research:	5400
	TOTAL:	1944
Intermediate certificatio	n	72
Publication Activity	conferences and meetings on theses topics	
	Theme 3: Presentations at scientific	
	Publication in periodicals of the bases	216
	Theme 2: Preparing manuscripts of articles for	
	Publications on the topic of the dissertation	
	Theme 1: Selection of domestic and foreign	
	Defense at the Academic Dissertation Council	
	Theme 11. Preparing a Report for the Dissertation	
	from scientific organizations and specialists.	
	Theme 10. Distribution of thesis abstracts for feedback	
	BAK	
	Internet resources, according to the requirements of the	
	Theme 9: Placement of the text of the dissertation in	

# 5. EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

The place of scientific research shall comply with the current sanitary and epidemiological requirements, fire safety regulations and standards of health protection of the students.

The research plan requires classrooms that meet the safety requirements for academic work, if necessary, a computer room with workstations that provide Internet connection, as well as classrooms with multimedia equipment.

## 6. INTERNSHIP LOCATION AND TIMELINE

Scientific research can be carried out both in structural subdivisions of RUDN University or in organizations of Moscow (stationary), and at bases located outside of Moscow (exit).

Conducting scientific research on the basis of an external organization (outside RUDN University) is carried out on the basis of an appropriate agreement, which specifies the terms, place and conditions for performing scientific research in the base organization. The deadlines for the implementation of scientific research correspond to the period indicated in the calendar academic schedule of the postgraduate program.

Practice dates can be adjusted in coordination with the Department of Doctoral Studies of the RUDN University

# 7. EDUCATIONAL-METHODOLOGICAL AND INFORMATION SUPPORT FOR SCIENTIFIC RESEARCH

Regulatory documents regulating the process of preparation and defense of dissertations: Federal Law of August 23, 1996 No. 127-FZ «On Science and State Scientific and Technical Policy» — URL: http://pravo.gov.ru/proxy/ips/?docbody=&nd=102043112

Decree of the Government of the Russian Federation dated September 24, 2013 No. 842 «On the procedure for awarding academic degrees» — URL: http://pravo.gov.ru/proxy/ips/?docbody=&nd=102167993

GOST R 7.0.11-2011 System of standards for information, library and publishing. Dissertation and dissertation abstract. Structure and design rules.

Internet Resourses:

ELS RUDN University and third party EBS, to which university students have accessbased signed contracts:

- RUDN Electronic Library System, http://lib.rudn.ru/MegaPro/Web;
- ELS University Library Online, http://www.biblioclub.ru;
- EBS Urayt, http://www.biblio-online.ru;
- ELS Student Consultant, http://www.studentlibrary.ru;

- EBS Lan, http://e.lanbook.com;
- EBS Trinity Bridge http://www.trmost.ru Databases and search engines:
- Electronic fund of legal and normative-technical documentation, http://docs.cntd.ru;
- Yandex search system https:// www .yandex.ru;
- Google search system https://www.google.com;
- Reference database Scopus , http://www.elsevierscience.ru/products/scopus
   *Educational and methodological materials for scientific research:* Guidelines for preparing dissertations and scientific publications.

# 8. ASSESSMENT TOOLKIT AND GRADING SYSTEM FOR EVALUATION OF PHD STUDENTS' COMPETENCES LEVELS AS SCIENTIFIC RESEARCH RESULTS

Based on the results of the stages of scientific research, the PhD student submits a detailed oral or written report to the supervisor or to a department meeting. The report includes information characterizing the content of the PhD student's work and reflecting the implementation of scientific research.

The report must include information:

- about the degree of readiness of the dissertation;
- on the preparation and publication of articles in journals included in the list of Higher Attestation Commission, Russian Science Citation Index, Scopus, Web of Science and others equated to them and/or approved by the Academic Council of RUDN University;
- on the participation of a PhD student in scientific and technical events on the topic of his research;
  - on participation in the research work of the department (with participation);
  - other.

During the interim certification period, the supervisor provides feedback on the quality, timeliness and success of the PhD student's stages of scientific activity.

The results of scientific research for every six months of study are determined by conducting an intermediate certification with grades «excellent», «good», «satisfactory», «unsatisfactory» and in the ECTS system (A, B, C, D, E) in accordance with the rating system.

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#### **DEVELOPERS:**

Assistant Professor of the Department of Subsoil Use and Oil and Gas Engineering

A.E.Kotelnikov

#### HEAD OF THE DEPARTMENT

Assistant Professor of the Department of Subsoil Use and Oil and Gas Engineering

A.E.Kotelnikov