

Документ подписан простой электронной подписью  
Информация о владельце:  
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**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 programme developer)

**Department of Construction Technology and Structural Materials**

(department realizing the PhD program)

## **SCIENTIFIC RESEARCH PLAN**

Scientific specialty:

**2.1.1. Building designs, buildings and constructions**

**2.1.5. Construction materials and products**

**2.1.6. Hydrotechnical structures, hydraulics and engineering hydrology**

**2.1.7. Technology and management in construction**

**2.1.9. Structural Mechanics**

(scientific speciality code and title)

The course instruction is implemented within the PhD programmes:

**Building designs, buildings and constructions**

**Construction materials and products**

**Hydrotechnical structures, hydraulics and engineering hydrology**

**Technology and management in construction**

**Structural Mechanics**

(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 result of scientific research is the solution of a scientific problem that is important for the development of the relevant branch of science, or the development of a new scientifically based technical, technological or other solution that is essential for the development of the country.

Preparation of a dissertation for defense includes the implementation of an individual plan of scientific activity, writing, design and submission of the dissertation for final certification.

The plan of scientific activity includes an approximate plan for the implementation of scientific research, a plan for preparing a dissertation and publications that present the main scientific results of the dissertation, as well as a list of stages for mastering the scientific component of the postgraduate program, the distribution of these stages and the final certification of postgraduate students.

The plan of scientific activity of a specific student is approved in the individual plan of scientific activity of a postgraduate student, the requirements for which are established by the relevant local regulatory act of RUDN.

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

The overall workload of the scientific research is 178 credits (6408 academic hours).

### 4. RESEARCH CONTENTS

Stages	Stage content (types of activities)	Workload, acad. hours
<b>First Year</b>		
Research activity aimed at preparing for a thesis defense	Statement of the purpose and objectives of the study.	360
	Review and analysis of information on the research topic.	
Publication Activity	Preparation of publications that present the main scientific results of the dissertation	360
Intermediate certification		432
<b>Second year</b>		
Research activity aimed at preparing for a thesis defense	Conducting theoretical and experimental research	540
Publication Activity	Preparation of publications that present the main scientific results of the dissertation	540
Intermediate certification		648
<b>Third year</b>		
Research activity aimed at preparing for a thesis defense	Scientific activity of a postgraduate student aimed at preparing a dissertation for defense	612

Publication Activity	Preparation of publications that present the main scientific results of the dissertation	612
Intermediate certification		648
<b>Fourth year</b>		
Research activity aimed at preparing for a thesis defense	Processing and registration of the results	540
Publication Activity	Preparation of publications that present the main scientific results of the dissertation	540
Intermediate certification		576
Total academic hours of scientific research:		6408

## 5. EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

1. Lecture rooms with multimedia projectors; laboratories with equipment and instruments for laboratory work.

2. Scientific laboratories equipped with appropriate equipment.

3. Computers for carrying out calculations and processing results and access to information systems.

## 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 Resources:*

ELS RUDN University and third party EBS, to which university students have access based 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](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.

### **DEVELOPERS:**

Associate Professor

A.S. Markovich

### **HEAD OF THE DEPARTMENT**

Head of Department

S.B. Yazyev