

Документ подписан пр...
Информация о владельце:
ФИО: Ястребов Олег Александрович
Должность: Ректор
Дата подписания: 17.04.2026 14:09:01
Уникальный программный ключ:
ca953a0120d891083f939673078ef1a989dae18a

**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 program developer)

Department of Innovation Management in Industries

(department realizing the PhD program)

COURSE SYLLABUS

Methodology of Scientific Research

(course title)

Scientific specialty:

2.2.9 Design and technology of instrumentation and radioelectronic equipment

(scientific specialty code and title)

The course instruction is implemented within the PhD programs:

Design and technology of instrumentation and radioelectronic equipment

(PhD program title)

1. DISCIPLINE (MODULE) GOAL

The purpose of mastering the discipline «Methodology of Scientific Research» is to acquire knowledge, skills and abilities in conducting research activities, as well as to prepare for candidate exams.

2. REQUIREMENTS TO PHD-STUDENTS ON FINISHING THE COURSE

As a result of mastering the discipline, the graduate student must

to know:

- methods of critical analysis and evaluation of modern scientific achievements, generation of new ideas in solving research problems;

- problems in the chosen field of scientific activity and the main ways to solve them;

- Main sources and methods of searching for scientific information;

be able to:

- analyze alternative options for solving research problems;

- follow the norms accepted in scientific communication;

- find the most effective methods for solving problems in the chosen field of scientific activity;

- analyze, systematize and assimilate the best practices of scientific research;

own:

- methods of solving research problems, including in interdisciplinary areas;

- methods of analysis of worldview and methodological problems arising in the solution of scientific problems;

- technologies for planning scientific activities;

- modern tools and technologies of research activities;

- skills in the preparation and implementation of a program of theoretical and experimental research.

3. WORKLOAD OF THE DISCIPLINE AND TYPES OF ACTIVITIES

The total labor intensity of the discipline «Methodology of Scientific Research» is 2 credits (72 academic hours).

Types of activities	TOTAL	Semester
		2
Contact work, ac. hrs.	18	18
including:		
Lectures (LC), ac. hrs.	12	12
Seminar Classes (S), ac. hrs.	6	6
Independent Work of Students (AW), ac. hrs.	18	18
Intermediate certification (test with assessment), ac. hrs.	36	36
Overall workload	ac. hrs.	72
	credits	2

4. CONTENT OF THE DISCIPLINE

Name of the discipline section	Contents of the section (topic)	Type of study work
Section 1. Methodological Foundations of Scientific Research	Topic 1.1. The Structure of Scientific Knowledge.	LC, S, AW
	Topic 1.2. Forms of organization of scientific knowledge.	LC, S, AW
	Topic 1.3. Sources and Conditions of Exploratory Search.	LC, S, AW
Section 2. Fundamentals of Scientific Research Organization	Topic 2.1. Definition of the object, subject, hypothesis, purpose and objectives of the research.	LC, S, AW
	Topic 2.2. Methodology of scientific research, research topic and its relevance.	LC, S, AW
	Topic 2.3. Statistical Methods and Formalization Tools.	LC, S, AW
Section 3. Logic in Research	Topic 3.1. Staged stage of research logic design.	LC, S, AW
	Topic 3.2. The actual research stage of the design of the research logic.	LC, S, AW
	Topic 3.3. Design and Implementation Stages of Researching Logic Design.	LC, S, AW

Section 4. Presentation of a scientific paper	Topic 4.1. Presentation of the results of the study.	LC, S, AW
	Topic 4.2. Report on the results of scientific work	LC, S, AW
	Topic 4.3. Scientific Text: Characteristics, Types, Forms of Representation. Dissertation as a Specific Type of Scientific Text.	LC, S, AW

5. EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Room Type	Room Equipment	Specialized educational / laboratory equipment, software and materials for mastering the discipline (if necessary)
Lecture room	Lecture-type classroom equipped with a set of specialized furniture; whiteboard (screen) and technical means of multimedia presentations	no
Seminar room	Auditorium for seminar-type classes, group and individual consultations, current control and intermediate certification, equipped with a set of specialized furniture and technical means of multimedia presentations	no
Computer class	Computer class for classes, group and individual consultations, current control and intermediate certification, equipped with personal computers (in the amount of 25 pcs.), a whiteboard (screen) and technical means of multimedia presentations	no
Room for independent work	Classroom for independent work of PhD students (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with access to the EIOS	no

6. METHODOLOGICAL SUPPORT AND LEARNING MATERIALS

Main readings:

- 1) Афанасьев, В.В., Грибкова, О.В., Уколова Л.И. Методология и методы научного исследования. – М.: Юрайт. 2023. – 164 с.
- 2) Дрецинский В. А. Методология научных исследований. – М.: Юрайт. 2023. – 350 с.
- 3) Лебедев С.А. Методология научного познания: уч. пособие для вузов. – М.: Юрайт, 2024. – 153 с.
- 4) Байбородова Л.В., Чернявская А.П. Методология и методы научного исследования. – М.: Юрайт. 2024. – 222 с.
- 5) Горелов Н.А., Кораблева О.Н., Круглов Д.В. Методология научных исследований. – М.: Юрайт. 2023. – 391 с.
- 6) Горелов Н.А., Кораблева О.Н., Круглов Д.В. Методология научных исследований: учебник и практикум для вузов / 3-е изд., перераб. и доп. М.: Юрайт, 2024. – 390 с. ISBN 978-5-534-16519-7. Текст электронный. Образовательная платформа Юрайт [сайт]. URL: <https://urait.ru/bcode/536410>.
- 7) Боуш Г.Д., Разумов В.И. Методология научного исследования (в кандидатских и докторских диссертациях): Учебник. – М.: ИНФРА-М, 2020. – 227 с. [Электронный ресурс]. URL: <https://new.znaniium.com/catalog/document?id=350432>.

Additional readings:

- 1) Горовая В.И. Научно-исследовательская работа – М.: Юрайт. 2023. – 104 с.
- 2) Афанасьев В.В., Грибкова О.В., Уколова Л.И. Основы учебно-исследовательской деятельности. – М.: Юрайт. 2023. – 164 с.
- 3) Комлацкий В.И., Логинов С.В., Комлацкий Г.В. Планирование и организация научных исследований: Учебник. – М.: Феникс. 2014. – 208 с. [Электронный ресурс]. URL: <https://www.studentlibrary.ru/book/ISBN9785222218402.html>.
- 4) Найдыш В.М. Концепции современного естествознания: учебник. – М.: КноРус, 2020. – 360 с.
- 5) Брылев А.А., Турчаева И.Н. Основы научно-исследовательской работы. – М.: Юрайт. 2023. 205 с.
- 6) Синченко Г.Ч. Логика диссертации: Учебное пособие. – М.: НИЦ ИНФРА-М, 2021. – 312 с. [Электронный ресурс]. URL: <https://znaniium.com/catalog/document?id=367478>.

7) Резник С.Д., Макарова С.Н., Резник С.Д. Эффективное научное руководство аспирантами: Монография – М.: НИЦ ИНФРА-М, 2020. – 152 с. [Электронный ресурс]. URL:<https://znanium.com/catalog/document?id=355408>.

8) Рой О.М. Методология научных исследований в экономике и управлении. – М.: Юрайт. 2023. – 212 с.

9) Скворцова Л.Н. Основы научных исследований: Учебное пособие для вузов. – М.: Лань. 2023. – 100 с.

10) Сладкова О.Б. Основы научно-исследовательской работы. – М.: Юрайт. 2023. – 155 с.

Internet sources:

Electronic Library Systems (ELS) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:

- ELS of RUDN University <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 foundation of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search system <https://www.yandex.ru/>
- Google search system <https://www.google.ru/>
- Scopus reference database <http://www.elsevierscience.ru/products/scopus/>

Educational and methodological materials for students' self-work studying the discipline / module:

A course of lectures on the discipline «Methodology of Scientific Research».

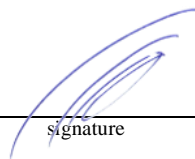
7. ASSESSMENT TOOLKIT AND GRADING SYSTEM FOR MIDTERM ATTESTATION OF STUDENTS IN THE DISCIPLINE

Assessment toolkit and a grading system to evaluate the level of competences (competences in part) formation as the course results are specified on the TUIS platform.

DEVELOPER:

Head of Department of Innovation Management
in Industries

position, educational department



signature

O.E. Samusenko

name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

Head of Department of Innovation Management
in Industries

educational department



signature

O.E. Samusenko

name and surname