MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

Federal State Budgetary Educational Institution of Higher Education
"Ural State University of Economics"

Approved
at the Department meeting

December 4, 2025

Protocol # 12

Head of the Department Bannykh S.G.

Approved
by the Council for Educational and Methodological Issues and Quality of Education

December 16, 2025

Protocol # 4

Chairman _____ Karkh D.A.
(signature)

COURSE PROGRAMME

Title	Organization of scientific research
Field of study	38.04.02 Management
Profile	International business (on English)
Form of study	Full-time
Year of enrollment	2026

Compiled by:
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Doctor of Philosophy
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Ekaterinburg
2025

CONTENT

INTRODUCTION

The working program of the discipline is part of the main professional educational program of higher education - the master's program, developed in accordance with the Federal State Educational Standard of Higher Education

Federal State Educational Standard of	Federal State Educational Standard of Higher Education - Master's Degree in the Field of Training 38.04.02 Management (Order of the Ministry of Education and Science of Russia dated August 12, 2020, No. 952)

1. TARGET DEVELOPMENT DISCIPLINES

The purpose of studying this academic discipline is to acquire knowledge about the laws, principles, concepts, terminology, content, specific features of the organization and management of scientific research.

The course "Organization of Scientific Research" allows students to gain knowledge of the fundamental historical aspects, theoretical principles, technologies, operations, practical methods, and techniques for conducting scientific research based on the modern achievements of domestic and foreign scientists, and to acquire skills in selecting a research topic , scientific research, analysis, experimentation, data processing, and obtaining well-founded, effective solutions using information technology.

2. PLACE DISCIPLINES IN STRUCTURE OPOP

The discipline is a compulsory part of the curriculum.

3. SCOPE OF THE DISCIPLINE

Interim assessment	Hours				Z.e.
	Total for the semester	Contact work (according to		Independent work including preparation of tests and coursework	
		Total	Practical classes, including course design		
Semester 1					
Credit	72	12	12	60	2

4.PLANNED RESULTS DEVELOPMENT OPOP

As a result of mastering the OPEP, the graduate should have developed the competencies established in accordance with the Federal State Educational Standard of Higher Education.

Code and name of the competence	Indicators of competency achievement
UK-1 Able to carry out a critical analysis of problematic situations based on a systems approach and develop an action strategy	ID-1.UK-1 Know: methods of critical analysis; methodology of a systems approach; methods of identifying problem situations

UK-1 Able to carry out a critical analysis of problematic situations based on a systems approach and develop an action strategy	ID-2.UK-1 Be able to: identify problem situations, search for information and solutions
	ID-3.UK-1 Have practical experience in developing and justifying a strategy for solving a problem situation based on a systems approach
UK-6 Able to determine and implement priorities of one's own activities and ways to improve them based on self-assessment	ID-1.UK-6 Knowledge: theoretical and methodological foundations of self-development, self-realization, and use of creative potential; fundamentals of professional trajectory planning; technologies and methods of self-assessment
	ID-2.UK-6 Be able to: determine priorities of professional activity and ways to improve it based on self-assessment; develop, monitor, evaluate, and research components of professional activity; plan independent activities in solving professional problems
	ID-3.UK-6 Have practical experience in determining an effective course of action in the field of professional activity; making decisions at the level of one's own professional activity; planning one's own professional activity

General professional competencies (GPC)

Code and name of the competence	Indicators of competency achievement
OPK-2 is capable of using modern techniques and methods of data collection, advanced methods of processing and analysis, including the use of intelligent information and analytical systems, when solving management and research problems;	ID-1.OPK-2 Know modern techniques and methods of data collection, advanced methods of their processing and analysis

OPK-2 is capable of using modern techniques and methods of data collection, advanced methods of processing and analysis, including the use of intelligent information and analytical systems, when solving management and research problems;	ID-2.OPK-2 Be able to use intelligent information and analytical systems in solving management and research problems
	ID-3.OPK-2 Have practical experience in using database management systems in the field of economics and management
OPK-5 Able to generalize and critically evaluate scientific research in management and related fields, and carry out research projects .	ID-1.OPK-5 Know the methods, technologies and tools for generalizing and critically evaluating the results of scientific research in management and economics
	ID-2.OPK-5 Be able to organize the work of creative teams to carry out research work
	ID-3.OPK-5 Have practical experience in activating the activities of team members carrying out research projects

5. THEMATIC PLAN

Topic	Hours						
	Topic Title	Total hours	Contact work (according to academic activity)			Independent work	Control of independent work
			Lectures	Laboratory	Practical classes		
Semester 1		72					

Topic 1.	Science as an Activity. Methodology of Scientific Research. (UK-1, UK-6, OPK-2, OPK-5)	12			2	10	
Topic 2.	Modeling in empirical research. Theoretical and practical levels of scientific research. General methodology of scientific creativity. (UK-1, UK-6, OPK-2, OPK-5)	12			2	10	
Topic 3.	Organization of research work, its main stages. Selection of research methods. Quantitative and qualitative description of the object. Patent search. (UK-1, UK-6, OPK -2, OPK-5)	14			2	12	
Topic 4.	Bibliographic search of literary sources. Literature review and selection of factual material. Compilation of a bibliographic index of literary sources (basic rules). (UK-1, UK-6, OPK -2, OPK-5)	9			1	8	
Topic 5.	Techniques for presenting scientific materials for articles, abstracts, reports, and dissertations. Publication of research results in periodicals. Scientometric indicators: journal impact factor,	10			2	8	
Topic 6.	Dissertation writing techniques and accumulation of scientific information. Composition and content of the main parts of the dissertation. (UK-1, UK-6, OPK-2, OPK-5)	7			1	6	
Topic 7.	The art of public speaking. Speech composition. Discussion. Preparing illustrative material for presentations. (UK-1, UK-6, OPK-2, OPK-5)	3			1	2	
Topic 8.	Concepts and genres of polemical speech. Tactics and procedures for conducting polemics. Polemical techniques. The procedure for public defense and the main criteria for evaluating a candidate's dissertation	5			1	4	

6. FORMS CURRENT CONTROL AND INTERMEDIATE CERTIFICATIONS SCALES ASSESSMENTS

Section/Topic	Type of assessment tool	Description of the assessment tool	Evaluation criteria
Current control (Appendix 4)			

Topic 1-2	Test #1 (Appendix 4)	a test of 20 closed-ended questions and 10 open-ended questions	49 or less unsatisfactory , 69% - 50% satisfactory , 84% - 70% good, 100% - 85% excellent
Topics 3-4-5	Test #2 (Appendix 4)	a test of 20 closed-ended questions and 10 open-ended questions	49 or less unsatisfactory , 69% - 50% satisfactory , 84% - 70% good, 100% - 85% excellent
Topics 6-7-8.	Test #3 (Appendix 4)	a test of 20 closed-ended questions and 10 open-ended questions	49 or less unsatisfactory , 69% - 50% satisfactory , 84% - 70% good, 100% - 85% excellent
Interim assessment (Appendix 5)			
1 semester (For)	Final test	The final test consists of 40 questions. 3 open-ended questions and 10 closed-ended questions	49 or less failed, 50% - 100% passed

DESCRIPTION OF RATING SCALES

The indicator for assessing the mastery of the basic educational program is formed on the basis of combining current monitoring and midterm assessment of the student.

The rating indicator for each discipline is expressed as a percentage, which shows the student's level of preparation.

Ongoing assessment. A 100-point grading system is used. Student work is assessed throughout the semester by the instructor in accordance with the instructor's developed assessment system for academic achievement in the given course.

The work programs of disciplines and internships set out the types of ongoing monitoring, planned results of monitoring activities, and criteria for assessing academic achievements.

During the semester, the instructor conducts at least three assessments to evaluate student performance. If class attendance is included in the rating, this indicator constitutes no more than 20% of the maximum score for the course.

Midterm assessment. A 5-point grading system is used. The student's work is assessed at the end of a course (or part of a course) by the instructor in accordance with the instructor's developed system for assessing student achievement in that course. Midterm assessment is also conducted upon completion of competency development.

The procedure for converting the rating provided for by the assessment system for a discipline into a five-point system.

High level – 100% - 70% - excellent, good.

Average level – 69% - 50% – satisfactory.

Evaluation indicator	On a 5-point scale	Characteristics of the indicator
100% - 85%	Great	possess theoretical knowledge in full, understand, independently know how to apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, and evaluate results at a high level
84% - 70%	Fine	possess theoretical knowledge in full, understand, independently know how to apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, and evaluate results. There may be some errors that the student can correct independently during the work process (answer , etc.)
69% - 50%	satisfactorily	have general theoretical knowledge, are able to apply, research, identify, analyze, systematize, categorize , calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, and evaluate results at an average level. Mistakes are made that the student finds difficult to correct on his own.
49% or less	unsatisfactory	do not have a full range of general theoretical knowledge, and are unable to independently apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, or evaluate results. The skills and abilities to solve professional problems have not been developed
100% - 50%	passed	the characteristic of the indicator corresponds to “excellent”,
49% or less	not credited	the indicator characteristic corresponds to "unsatisfactory"

7. CONTENT DISCIPLINES

7.2 Contents of practical classes and laboratory work

Topic 1. Science as an activity. Methodology of scientific research. (UK-1, UK-6, OPK-2, OPK-5)

Subject and objectives of studying the discipline.
The meaning and essence of scientific research and scientific inquiry.
Science as a sphere of human activity. Scientific research. Methods of critical analysis; systems approach methodology; methods for identifying problem situations. The immediate goals of science. Science as a unified, interconnected, evolving system.
knowledge of its laws. Scientific branches of knowledge. Classification of sciences: natural, technical, humanities. The growing active role of science in all spheres of human activity,
increasing its social significance. The connection of the course with other disciplines. The development of scientific
research in Russia and abroad.
The origin and development of science. Scientific and technological progress. The Scientific and Technological Revolution
(STR).
Methodological foundations for determining the level of science in various countries. The organization of science in
the Russian Federation. Science as a productive force in modern society. The level of development and main areas of scientific research in various countries. Legislative and
regulatory acts governing the foundations of scientific research.
Methodology of scientific research.
The essence of research methodology. Definition of the object and subject of research.
Research principles and problem. Developing a hypothesis and research concept.
Research process and methodologies. Scientific methods of inquiry.

Topic 2. Modeling in empirical research. Theoretical and practical levels of scientific research. General methodology of scientific creativity. (UK-1, UK-6, OPK-2, OPK-5)

Methods of the empirical level of scientific knowledge.
Scientific research method. Observation and measurement. Observation. Laboratory observations.
Observation results. Description. Counting. Measurement. Types of measurements. Comparison. Experiment and
experimental design. Experiment. Classification of experiments. Exploratory experiments. Verification experiments. Qualitative experiments. Quantitative experiments. Experiment design. Modeling as a method of empirical knowledge. Experiment conditions. Experiment plan. General methodology of scientific creativity.
Application of logical laws and rules. Law of identity. Law of contradiction. Law of the excluded middle. Inferential judgments (inductive and deductive). Deductive and inductive inference. Loss of the thesis. Complete substitution of the thesis. Partial substitution of the thesis.
Requirement of truth of arguments. Requirement of autonomy of arguments - arguments must be proven independently of the thesis. Requirement of consistency of arguments - arguments must not contradict each other. Requirement of sufficiency of arguments - arguments in their totality. Unjustified logical transition from a narrow field to a broader field.
Refutation of arguments. Rules for constructing logical definitions. Rule of proportionality.
Tautology.
Work on the development and argumentation of a strategy for solving a problem situation based on a systems approach

Topic 3. Organization of research work and its main stages. Selection of research methods. Quantitative and qualitative description of the object. Patent search. (UK-1, UK-6, OPK-2, OPK-5)

Concepts. Scientific research. Research hypothesis. Selecting a topic and defining the problem. Formulating the research objective. Formulating and substantiating the primary hypothesis.

Theoretical research: a systematic study of the literature on the topic (statistical data and archival materials); conducting empirical and theoretical research; explaining new scientific facts, arguing and formulating provisions, conclusions, practical recommendations and proposals.

Experimental research: an experiment or scientifically conducted test. Analysis and comparison of results.

Final conclusions: defining the composition (building the internal structure) of the work; clarifying the title, paragraphs, and chapter headings; summarizing the research findings and their relevance to the stated objective. Approval of the results.

Empirical research methods. Study of various sources of information. Analysis of the obtained data. Observation.

Experiment. Survey.

Theoretical research methods. Analysis. Synthesis.

Modeling. Deduction. Analogy. Abstraction.

Quantitative and qualitative description of the object.

Patent search. Planning independent work in solving professional problems.

Topic 4. Bibliographic search for literary sources. Studying literature and selecting factual material. Formatting a bibliographic index of literary sources (basic rules). (UK-1, UK-6, OPK-2, OPK-5)

Types of sources, the content of which is related to the topic of scientific research: materials published in various domestic and foreign publications, unpublished documents (reports on research and development work, dissertations, deposited manuscripts, reports of specialists on foreign business trips, materials of foreign companies), official materials.

Bibliographic indexes. Algorithm for studying scientific publications: general familiarization with the work as a whole using its table of contents; quick review of the entire content; reading in the order of the material's arrangement; selective reading of any part of the work; extract of materials of interest;

critical assessment of the recorded material, its editing and “clean” recording as a fragment of the text of the future dissertation work.

Methods for critically assessing scientific research results and substantiating priority areas for development in the circulation sector. Evaluation of scientific research results, as well as priority areas for development in the circulation sector.

Topic 5. Techniques for presenting scientific materials for articles, abstracts, reports, and dissertations. Publication of research results in periodicals. Scientometric indicators: journal impact factor, h-index, etc. (UK-1, UK-6, OPK-2)

Techniques for presenting scientific materials for articles, abstracts, reports, and dissertations. Book or article outline. Theses. Abstract. Means of concise description of the text. Means of expanded description of the text, including analysis and evaluation of information. Semantic analysis of the full text.

Construction of the scientific text. Reflection in the text of general scientific concepts related to systematicity of the object of study: hierarchy, opposition, isomorphism, invariant, etc. Categorical-philosophical understanding of the problematic of the scientific work under consideration: identification of direct references in the text to philosophical categories, understanding in philosophical terms the diverse components of the source.

Typical mistakes made when preparing a review article, abstract, or dissertation.

Publication of research results in periodicals. Scientometric indicators: journal impact factor, h-index, etc.

Topic 6. Dissertation Writing and Accumulation of Scientific Information. Composition and Content of the Main Sections of the Dissertation. (UK-1, UK-6, OPK-2, OPK-5) The dissertation writing process and the accumulation of scientific information. General outline of dissertation research. Use of scientific research methods. Fundamentals of dissertation research. Composition and content of the main parts of the dissertation. Preparing materials for a master's thesis. Choosing a topic. Developing a plan. Bibliographic search for sources. Literature review and selection of materials. Algorithm for writing a master's thesis.
Topic 7. The Art of Public Speaking. Speech Composition. Discussion. Preparing Illustrative Materials for Presentations. (UK-1, UK-6, OPK-2, OPK-5) The art of public speaking. Public speech. Requirements for the speaker's text: clarity, informativeness, and expressiveness. Speaker skills: skills: self-confidence; the ability to continuously talk on one topic; express thoughts briefly and concisely, and construct words in sentences correctly and competently; Ability to engage an audience; artistry and charisma; persuasiveness. Features of public speaking. Speech composition. Types and methods of public speaking. Discussion. Requirements and technology of public speaking. Preparation of illustrative material for presentations.
Topic 8. Concepts and genres of polemical speech. Tactics and procedure for conducting polemics. Polemical techniques. The procedure for public defense and the main criteria for evaluating the candidate's dissertation . (UK-1, UK-6, OPK-2, OPK-5) Concepts and genres of polemical speech. Tactics and procedure for conducting polemics. Polemical techniques. Intellectual and psychological tricks of debate. Procedure for defending a master's thesis. The procedure for public defense and the main criteria for evaluating the candidate's dissertation. Requirements for the master's student's report: the title of the master's dissertation; the relevance of the topic; the main provisions and conclusions (results) made by the student; the theoretical and practical significance of the results obtained by the student results.Criteria for evaluating a master's thesis.

7.3. Contents of independent work

Topic 2. Modeling in empirical research. Theoretical and practical levels of scientific research. General methodology of scientific creativity. (UK-1, UK-6, OPK-2, OPK-5) 1. Study of primary and secondary literature 2.Preparation for the test (Appendix 2)
Topic 3. Organization of research work and its main stages. Selection of research methods. Quantitative and qualitative description of the object. Patent search. (UK-1, UK-6, OPK-2, OPK-5) 1. Study of primary and secondary literature 2.Preparation for the test (Appendix 2)

Topic 4. Bibliographic search for literary sources. Studying literature and selecting factual material. Formatting a bibliographic index of literary sources (basic rules). (UK-1, UK-6, OPK-2, OPK-5) 1. Study of primary and secondary literature 2.Preparation for the test (Appendix 2)
Topic 5. Techniques for presenting scientific materials for articles, abstracts, reports, and dissertations. Publication of research results in periodicals. Scientometric indicators: journal impact factor, h-index, etc. (UK-1, UK-6, OPK-2) 1. Study of primary and secondary literature 2.Preparation for the test (Appendix 2)
Topic 6. Dissertation writing techniques and accumulation of scientific information. Composition and content of the main parts of the dissertation. (UK-1, UK-6, OPK-2, OPK-5) 1. Study of primary and secondary literature 2. Solving problems and exercises on the topics 3.Preparation for the test (Appendix 2)
Topic 7. The Art of Public Speaking. Speech Composition. Discussion. Preparing Illustrative Materials for Presentations. (UK-1, UK-6, OPK-2, OPK-5) 1. Study of primary and secondary literature 2.Preparation for the test (Appendix 2)
Topic 8. Concepts and genres of polemical speech. Tactics and procedure for conducting polemics. Polemical techniques. The procedure for public defense and the main criteria for evaluating the candidate's dissertation . (UK-1, UK-6, OPK-2, OPK-5) 1. Study of primary and secondary literature 2.Preparation for the test (Appendix 2)

7.3.1. Sample questions for independent preparation for the test/exam
Appendix 1

7.3.2. Practical assignments on the subject for independent preparation for the test/exam
Appendix 2

7.3.3. List of coursework
Not provided

7.4. Student's electronic portfolio
Materials are not placed in the portfolio

7.5. Methodological recommendations for completing the test
Not provided

7.6 Methodological recommendations for completing coursework
Not provided

8. PECULIARITIES ORGANIZATIONS EDUCATIONAL PROCESS BY DISCIPLINE FOR PERSONS WITH LIMITED OPPORTUNITIES HEALTH

By statement student

IN purposes availability development programs For persons With limited opportunities health at necessity department provides next conditions:

- special order development disciplines, With taking into account states their health;
- electronic educational resources By discipline V forms, adapted To restrictions their health;
- studying disciplines By individual educational plan (outside dependencies from forms training);
- electronic education And remote educational technologies, which provide for possibilities reception and transmission information V available For them forms.
- access (remote access), To modern professional bases data And informational reference systems, compound which defined RPD.

9. SCROLL BASIC AND ADDITIONAL EDUCATIONAL LITERATURE, NECESSARY FOR DEVELOPMENT DISCIPLINES

Website libraries USUE
http://lib.usue.ru/

Main literature:

2. Boush G.D., Razumov V.I. Methodology of scientific research (in candidate and doctoral dissertations) [Electronic resource]: Textbook. - Moscow: OOO "Scientific Publishing Center INFRA -M", 2022. - 227 p. - Access mode: https://znanium.com/catalog/product/1844374

Further reading:

2. Tikhonov V. A., Vorona V. A. Scientific research: conceptual, theoretical and practical aspects: [textbook for universities]. - Moscow: Goryachaya Liniya - Telecom, 2013. - 296

3. Menyailo V. V., Tulyakova N. A., Chumilkin S. V. Academic writing. Vocabulary. Developing Academic Literacy: a textbook for undergraduate and graduate students studying in all fields. - Moscow: Yurait, 2017. - 240

4. Lomtev S.P. Abstract of the dissertation: typology of errors and writing rules [Electronic resource]: Educational and methodological literature. - Moscow: Russian State University of Justice, 2020. - 68 - Access mode: https://znanium.com/catalog/product/1689565

5. Gerasimov B.I., Drobysheva V.V. Fundamentals of Scientific Research [Electronic resource]: Study guide. - Moscow: FORUM Publishing House, 2022. - 271 - Access mode: https://znanium.com/catalog/product/1836951

6. Korotkov E. M. Research of control systems [Electronic resource]: Textbook and practical training for universities. - Moscow: URAYT, 2022. - 226 – Access mode: https://urait.ru/bcode/489085

7. Krylatkov P. P., Kuznetsova E. Yu., Fominykh S. I. Research of control systems [Electronic resource]: a teaching aid for universities. - Moscow: Yurait, 2022. - 127 - Access mode: https://urait.ru/bcode/493459

8. Menyailo V. V., Tulyakova N. A., Chumilkin S. V. Academic writing. Vocabulary. Developing Academic Literacy [Electronic resource]: Textbook for universities. - Moscow: URAYT, 2022. - 240 – Access mode: https://urait.ru/bcode/491693

9. Kosmin V.V. Fundamentals of Scientific Research (General Course) [Electronic resource]: Study Guide. - Moscow: RIO Publishing Center, 2022. - 300 – Access mode: https://znanium.com/catalog/product/1859090

10. SCROLL INFORMATIONAL TECHNOLOGIES, INCLUDING SCROLL LICENSE SOFTWARE SUPPORT AND INFORMATIONAL REFERENCE SYSTEMS, ONLINE COURSES, USED AT IMPLEMENTATION EDUCATIONAL PROCESS BY DISCIPLINE

List of licensed software:

Astra Linux Common Edition. Agreement No. 0417-PO/2019 from May 8, 2019, Act No. Sk000343 from May 24, 2019 And Contract No. 35-U/2018 from June 13, 2018, Act No. UT213 from December 17, 2018. Term actions licenses - without restrictions term.

MyOffice standard. Agreement No. SK-281 from 7 June 2017. Date conclusions - 07.06.2017. Term actions licenses - without restrictions term.

Libre Office. License GNU LGPL. Term actions licenses - without restrictions term.

List of information reference systems, resources of the information and telecommunications network "Internet":

Reference and legal information system Guarantee. Agreement No. 58419 from 22 December 2015. Term actions licenses -without restrictions term

Reference and legal information system Consultant +. Agreement No. 143/223-U/2025 from December 2, 2025 Term actions licenses to December 31, 2026

11. DESCRIPTION LOGISTICS BASES, NECESSARY FOR IMPLEMENTATIONS EDUCATIONAL PROCESS BY DISCIPLINE

Implementation educational disciplines is being carried out With using logistical bases USUE, providing conducting everyone species educational classes And research And independent work students:

Special premises represent by yourself educational audience For conducting everyone species classes, group And individual consultations, current control And intermediate certification.

Premises For independent work students equipped computer technology With opportunity connections To networks "Internet" And provision access V electronic informational and educational Wednesday USUE.

All premises staffed specialized furniture And equipped multimedia equipment special equipment (information and telecommunications, other computer), access To information retrieval, reference and legal systems, electronic library systems, bases data current legislation, other informational resources employees For performances educational information big audience.

For conducting classes lecture type presentations And other educational visual aids benefits, providing thematic illustrations.

Appendix 1

to the work program for the discipline "ORGANIZATION OF SCIENTIFIC RESEARCH"

7.3.1. Sample questions for independent preparation for the test

1. Science as a type of activity.
2. Methodology of scientific research.
3. Modeling in empirical research.
4. Theoretical and empirical level of scientific research.
5. General methodology of scientific creativity.
6. What methods are used at the empirical level of scientific knowledge?
7. How do the concepts of technique, procedure and methodology of scientific research differ from the concept of method?
8. Why does observation become an indispensable method in some cases of object research?
9. What types of measurements are there?
10. What are the approaches to classifying experiments?
11. Planning scientific research.
12. Selecting a topic for scientific research.
13. Patent search.
14. Organization of scientific research work, its main stages.
15. Selection of research methods (from general to specific).
16. Quantitative and qualitative description
17. Bibliographic search of literary sources.
18. Study of literature and selection of factual material.
19. Design of a bibliographic index of literary sources (basic rules).
20. Techniques for presenting scientific materials for the design of articles, abstracts, reports, and dissertations.
21. Publication of research results in periodicals.
22. Scientometric indicators: journal impact factor, Hirsch index , etc.
23. Technology of writing a dissertation and accumulation of scientific information.
24. Composition and content of the main parts of the dissertation.
25. The art of public speaking.
26. Speech composition.
27. Discussion.
28. Preparation of illustrative materials for presentations.
29. Concepts and genres of polemical speech.
30. Tactics and procedure for conducting polemics.
31. Polemical techniques.
32. The procedure for public defense and the main criteria for evaluating the applicant's dissertation work.

Appendix 2
to the work program

Practical assignments for the test

UK-1: Capable of carrying out a critical analysis of problematic situations based on a systems approach and developing an action strategy

ID-1.UK-1: Know: methods of critical analysis; methodology of a systems approach; methods for identifying problem situations
ID-2.UK-1: Be able to: identify problem situations, search for information and solutions
ID-3.UK-1: Have practical experience in developing and justifying a strategy for solving a problematic situation based on a systems approach

Open questions

1. What is the name of the method of obtaining knowledge by dismembering or breaking down the objects of study into their constituent parts?
2. What is the name of the internal essential connection of phenomena that determines their necessary, lawful development?
3. Give a definition of a scientific "concept".
4. What should be included in the abstract of a scientific paper?
5. What is the name of the research method: Mental abstraction from the unimportant properties, connections, and relationships of objects and the identification of several aspects that interest the researcher?
6. Object of scientific research?
7. Write the missing word:
   _____ are the patterns of interaction between elements within and outside the system, the properties and qualities of the system, and the specific logical content of the object. In other words, these are the main, most essential characteristics and aspects of the object's development.
8. Write the missing words:
   A) _____ is a word or combination of words denoting a special concept used in science, technology, and art. B) _____ is a thought reflecting the essential and necessary characteristics of an object or phenomenon.

9. Write the missing words: _____ _____ is a philosophical doctrine about the methods of cognition and transformation of reality, the application of the principles of worldview to the process of cognition, spiritual creativity and practice.
10. Write the missing word: _____ is a path of research, a way to achieve a goal, solve a specific problem, a set of techniques and operations for mastering reality.
11. Write the missing words:
A) _____ is the decomposition of research subjects into their component parts. B) _____ is a research method that aims to unite individual parts of the system being studied, its elements, into a single system.
12. Write the missing words:
_____ _____ is an approach in which an object is viewed as a system, a set of interconnected elements with an output (goal), input (resources), and connection to the external environment. During the study, the object is viewed as both a system and, simultaneously, as an element of a more general system.
13. Insert the missing name:
_____ _____— is a set of methods, techniques, and approaches used in the process of scientific inquiry. In other words, it is a specific method used to study a chosen topic.
14. Insert the missing words:

_____ _____ is the degree of its importance at a given moment and in a given situation for solving a specific problem, task, or issue. The relevance of a scientific problem is the demand

for studying and solving it in management. Relevance answers the question: why is this topic important and for whom?
15. What is it called: _____
- Selection of a research topic based on existing theoretical background and practical experience
- Drawing up a plan for scientific work and its approval by the scientific supervisor.
- Drawing up a calendar schedule for the implementation of the study.
- Conducting a review of scientific literature.
- Collection of data, information about the object of research and generalization using scientific research methods.
- Preparation of the first version of scientific work.
- Elimination of comments and editing, structuring of text
- Checking in the Antiplagiat system.
- Design in accordance with requirements.
16. What is judgment?
17. What is the name of the mental action that connects thoughts of different content into a series of premises and consequences? In other words, a form of thinking through which a new proposition is derived from one or more propositions?
18. Insert the missing phrase?
_____ _____ denotes an increase in new knowledge about an object. Its elements include: a new approach or perspective for solving a problem, proposed methods, algorithms, formulas for calculating indicators, and stages of strategy development. _____ _____ is something that has not been done or studied before. The formulation of scientific novelty is one of the important elements that must be presented in the defense of a master's degree thesis. The thesis must have scientific significance.
19. Insert the missing word:
_____—is an objective assessment of the research results obtained during the final qualifying work. To obtain approval, you must either present a paper at a conference, participate in a large-scale discussion on a specific topic at a seminar, or publish your research results in a scientific journal.
20. What are the ways to identify problem situations and search for information and solutions?

Closed questions

1. Methodology:
A) it is the identification and resolution of paradoxes
B) it is a system of generalized knowledge, explanation of certain aspects of reality
C) it is a denial of what seems absolutely correct
D) is a philosophical doctrine about the methods of cognition and transformation of reality, the application of the principles of worldview to the process of cognition, spiritual creativity and practice.

2. What is the object of scientific research:
A) structure of the system
B) properties and qualities of elements in the system
C) material or ideal system
D) patterns of interaction of elements within the system.

3. Historical method of knowledge:
A) this is the development of a scientific hypothesis based on the study of the physical, chemical, etc. essence of the phenomenon under study using methods of cognition and the formation of a hypothesis, the compilation of a calculation scheme of an algorithm, its study, analysis, and the development of theoretical principles
B) study of the emergence, formation and development of objects in chronological sequence

C) is a way of understanding the objective world based on the direct perception of objects and phenomena using the senses without intervention in the process by the researcher
D) this is a mental abstraction from the unimportant properties, connections, and relationships of objects and the identification of several aspects that interest the researcher.

4. Hypothesis:
A) it is an indirect and generalized reflection in the human brain of essential properties, causal relationships and lawful connections between objects or phenomena
B) it is a thought in which, through connection, something is affirmed or denied
C) this is a conclusion through which the transition from thinking to action, practice becomes possible
D) it is an assumption about the cause that causes a given effect
E) these are two opposing statements, for each of which there are arguments that seem convincing.
5. What is the essence of the dialectical method of cognition:
A) considers all objects and phenomena only in quantitative terms, in isolation, separate from each other
B) this is a method of studying phenomena in which some statements are accepted without evidence
C) it is a method of understanding reality in its contradictions, integrity and development
D) involves the study of the emergence, formation and development of objects in chronological sequence.

6. Choose the correct answer:
A scientific idea is...
A) a form of logical thinking in which the internal essential aspects and relationships of the objects under study are revealed
B) an intuitive explanation of a phenomenon (process) without intermediate argumentation, without awareness of the entire set of connections on the basis of which the conclusion is drawn.
B) a universal form of expression of human thoughts, including scientific knowledge, in natural language form.

7. Choose the correct answer:
Scientific research is...
A) an event or phenomenon that serves as the basis for a conclusion or confirmation.
B) a process or phenomenon that generates a problematic situation and is selected for study
B) purposeful cognition, the results of which appear in the form of a system of concepts, laws and theories.

8. Choose the correct answer:
Select general scientific methods and research techniques.
A) analysis and synthesis
B) idealization
B) visualization
Choose the correct answer:

9. What is the objective of theoretical research?
A) generalization of research results
B) finding general patterns
B) accumulation of information
Choose the correct answer:

10. Fundamental research is research...
A) aimed at the development and advancement of theoretical concepts of science, its scientific status, and its history.
B) solving to a greater extent practical problems or theoretical questions of applied significance.

B) solve stated problems using critical analysis

UK-6: Able to determine and implement priorities for one's own activities and ways to improve them based on self-assessment

ID-1.UK-6: Knowledge: theoretical and methodological foundations of self-development, self-realization, and the use of creative potential; fundamentals of professional trajectory planning; technologies and methods of self-assessment

ID-2.UK-6: Be able to: determine priorities for professional activity and ways to improve it based on self-assessment; develop, monitor, evaluate, and research components of professional activity; plan independent activities in solving professional problems

Open questions

1. Arrange the stages of scientific research work in order:
- drawing up a research plan
- conducting research
- choice of research methods
- setting goals and objectives
- literature review
- definition of the subject and object of research
- definition of a scientific problem
- formulating conclusions
- presentation of research results.

2. How many pages does a term paper and an essay contain on average?

3. What types of scientific research with a specific purpose do you know?

4. What is the name of the rule that arises as a result of people’s subjectively understood experience?

5. What is the name of the targeted process of transforming information into a form suitable for industrial use, the ultimate goal of which is to prepare applied research materials for implementation?

6. What should be reflected in the abstract of a scientific paper?

7. What is fair citation?

9. What percentage of the original text should a master's thesis contain?

10. The purpose of the study?

11. Give a definition of science

12.What is a principle in scientific research?

13. Name the methods of development, control, evaluation and research of components of professional activity.

14. What research methods will you need when planning independent work in solving professional problems?

15. What grade should a term paper receive if it is research-based, has a well-presented theoretical section, and is characterized by a logical and consistent presentation of the material with appropriate conclusions and well-founded proposals for the practical application of the research results?

Closed questions

1. Choose the correct answer:

The main requirement for the scientific text you plan to write during your research:
A) literary
B) brevity
B) logical presentation

2. Choose the correct answer:

Abstract of a research paper you have written -
A) this is a document on the main provisions of the content of future work (textbook, dissertation).
B) this is a characteristic of the content of scientific work
B) this is a brief description of the content, purpose and main conclusions of the scientific research

3. What determines the research design?
A) the structure, logic and its main stages
B) goals, objectives, plan
B) strategy and tactics
C) relevance and hypothesis
D) goals and objectives

4. Identify the contradiction(s) that objectively exist in the chosen subject area, the resolution of which will be the focus of the research paper. This means determining...
A) goal
B) problem
B) intention
C) logic
D) scientific novelty

5. A scientifically sound assumption, a prediction of the course and outcome of the research…
A) problem
B) hypothesis
B) topic
D) design
D) scientific novelty

6. An artificially created object in the form of a diagram, physical structures, symbolic forms or formulas, which, being similar to the object (or phenomenon) being studied, displays and reproduces in a simpler and more generalized form the structure, properties, interrelations and relationships between the elements of this object.
A) formula
B) diagram
B) structure
D) model
D) system

7. Which of the listed forms of scientific work plays a leading role in students' mastery of the elements of research work?

A) abstracts
B) reviews
B) essay
D) scientific reports
D) coursework

8. What is the total volume of the coursework in pages?
A) 10-15
B) 20-25
B) 5-10
D) 50-70
D) it doesn't matter

9. Name the structural part of the coursework, the purpose of which is to justify the choice of topic, formulate the objectives, characterize the information base, note the limitations of the topic and other features of the work.
A) plan
B) justification
B) introduction
D) relevance
D) experimental part

10. What is compilation?
A) critical examination of materials
B) argumentation
B) citation
D) testing
D) rewriting the original source

OPK-5: Able to generalize and critically evaluate scientific research in management and related fields, and carry out research projects.
ID-1.OPK-5: Know the methods, technologies, and tools for generalizing and critically evaluating the results of scientific research in management and economics
ID-2.OPK-5: Be able to organize the work of creative teams to carry out scientific research work
ID-3.OPK-5: Have practical experience in activating the activities of team members carrying out research projects

Open questions

1. What is the name of the research aimed at finding ways to use the laws of nature to create new and improve existing means and methods of human activity?
2. Insert the missing word: _____ is one of the most recognized and effective types of analysis and forecasting, the content of which is: a) preliminary study of an object or process; b) identification of its significant characteristics or features; c) formation of a model; d) theoretical, experimental analysis of the constructed model; d) comparison of the modeling results with the available data on the object; e) final adjustment of the model
3. What is the name of research aimed at discovering and studying new phenomena and laws of nature, and creating new research principles?
4. Which of the stages of mathematical modeling should be carried out before the following: numerical solution; mathematical analysis of the model; preparation of initial information; construction of a mathematical model?
5. Insert the missing words: Taking into account the time factor, models are divided into static A)_____, where the constraints are defined for a specific period of time, or B_____, when the constraints are set for two or more periods

6. What is the name of the definition of a general concept that reflects the main, fundamental characteristic of objects of a given class?
7. What is a systems approach?
8. What are the sources of scientific information?
9. Insert the missing word:_____ forms a powerful toolkit for describing and predicting real processes, it "allows for quantitative analysis of real phenomena based on modern developments in theory and observations related to methods of drawing conclusions.
10. What types of methods are there in mathematics? Mathematical research methods: A_____B_____C_____or _____
11. Write which method is missing? General scientific logical methods in mathematics: A)_____B) Description method C) Analysis and synthesis method D) Generalization and specialization method E) Abstraction and concretization method
12. Please describe which method is missing? Specialized or highly specialized methods: A)_____B) Registration method C) Scaling method D) Method of equations and inequalities E) Method of geometric transformations E) Method of differential G) Method of statistical tests H) Method of linear programming I) Method of game theory
13. What is the name of the missing mathematical method? _____ allows one to identify certain trends in accordance with established deviations from the quantitative balance in the economy. However, attempts to forecast the long-term development of complex systems, where the influence of qualitative rather than quantitative processes predominates, remain ineffective.

Closed questions

1. Scientific idea:
A) an intuitive explanation of a phenomenon without intermediate argumentation, without awareness of the entire set of connections on the basis of which a conclusion is drawn
B) this is an assumption about the cause that causes this effect
B) it is a thought in which, through connection, something is affirmed or denied
C) a thinking process that consists of a sequence of two or more judgments
D) this is one of the spheres of human practice in which the truth of hypotheses put forward is tested or the patterns of the objective world are revealed

2. Theory:
A) these are two opposing statements, for each of which there are arguments that seem convincing
B) this is an ideal reproduction in linguistic form of generalized ideas about the lawful connections of the objective world
B) it is a system of generalized knowledge, an explanation of certain aspects of reality, a generalized experience in the consciousness of people
C) it is a thought that reflects the essential and necessary characteristics of an object or phenomenon
D) this is the identification and resolution of paradoxes.

3. What is observation:
A) is a way of understanding the objective world based on the direct perception of objects and phenomena using the senses without intervention in the process by the researcher
B) it is a physical process of determining the numerical value of a certain quantity by comparing it with a standard
B) this is one of the spheres of human practice in which the truth of hypotheses put forward is tested or the patterns of the objective world are revealed
a generalization of a person's system of views on the world as a whole
C) is a way of constructing a scientific theory in which some statements are accepted without evidence.

4. Creativity is:

A) is a way of understanding the objective world based on the direct perception of objects and phenomena using the senses without intervention in the process by the researcher
B) this is thinking in its highest form, going beyond the known, as well as activity that generates something qualitatively new
B) this is a set of complex theoretical and practical problems, the solution of which is urgent in society
C) it is a means for the formation of new scientific concepts, the formation of laws and theories

5. An experiment is:
A) establishing differences between objects of the material world or finding common ground between them, carried out both with the help of the senses and with the help of special devices
B) finding a number that determines the quantitative relationship of similar objects or their parameters that characterize certain properties
B) a physical process of determining the numerical value of a quantity by comparing it with a standard
C) one of the spheres of human practice in which the truth of hypotheses put forward is tested or the patterns of the objective world are revealed
D) a method of understanding the objective world based on the direct perception of objects and phenomena using the senses without intervention in the process by the researcher.

6. Choose the correct answer:
In the mathematical formulation of the problem
modeling should be considered as:
A) integration of principles of systemic, probabilistic-statistical and measurement approaches
B) the emergence of problems of using an incomplete set of determining variables
B) ill-posed inverse problems of reconstructing a model dependence from experimental data, requiring the use of regularizing schemes to ensure the convergence and stability of their solutions

7. Choose the correct answer:
Game theory is also a mathematical method. Game theory is...
A) It explores various strategies for managing conflict situations and finding innovative solutions that can generate greater profits or a competitive advantage. However, the method's core is working with big data.
B) a methodological approach that also works with mathematical models. However, it emphasizes constructing a random process using parameters that are equal to the desired values.
B) helps researchers study real-world phenomena through mathematical models. To use it, it is necessary to translate a problem into the formal language of mathematics, solve the problem, and interpret the results.

8. Choose the correct answer:
Which problem cannot be solved using dynamic programming methods:
A) resource allocation
B) determining the optimal product range
B) development of inventory management rules

9. Name the concept: “The process of creating a hierarchy of models in which some real-life system is modeled in various aspects and by various means.”
A) structuring
B) formulation
C) modeling
D) systematization
E) design

10) Does the genetic method, which allows for the study of phenomena based on the analysis of their development, belong to this group of methods?

A) to dialectical methods
B) to comparative historical methods
D) to historical methods
D) to comparative methods

OPK-2: Capable of applying modern data collection techniques and methods, advanced methods of processing and analysis, including the use of intelligent information and analytical systems, when solving management and research problems;

ID-1.OPK-2: Know modern techniques and methods of data collection, advanced methods of processing and analysis

ID-2.OPK-2: Be able to use intelligent information and analytical systems to solve management and research problems

ID-3.OPK-2: Have practical experience in using database management systems in the field of economics and management

Closed questions

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Game theory is also a mathematical method. Game theory is...
A) It explores various strategies for managing conflict situations and finding innovative solutions that can generate greater profits or a competitive advantage. However, the method's core is working with big data.
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A) plan
B) justification
B) introduction
D) relevance
D) experimental part

8. What is compilation?
A) critical examination of materials
B) argumentation
B) citation
D) testing
D) rewriting the original source

Practical tasks

Task No. 1

General information about science and scientific research

Test questions:

1. The concept of science, methods of scientific research.

2. The essence and organization of scientific research.

3. Forms of scientific research of a university student.

ASSIGNMENT: Create a personal thesaurus for "Science and Scientific Research"

Task No. 2

Selection and justification of the topic of scientific research

Test questions:

1. Main directions of scientific research.

2. Selection of the research topic, justification of its relevance and significance.

3. Definition of goals and objectives of scientific research.

4. Formulation of the subject and object of scientific research.

ASSIGNMENT: Select and justify a research topic. Define the goals, objectives, object, and subject of the research.

Task No. 3

Information support for scientific research

Test questions:

1. Types of information sources.
2. The main departments of the library: their functions and services provided to readers.
3.Electronic catalogue.
4. Organization of the researcher's work when collecting secondary information.
5. Methods of collecting primary data.

ASSIGNMENT: compile a bibliography on the chosen topic of scientific research (in the form of a list of references).

Task No. 4

Research Plan

Test questions:

1. Types of scientific research plans, requirements for their preparation.
2. Forms of scientific research plans.
3. Structure of research work.

TASK: draw up a plan for scientific research on the chosen topic.

Task No. 5

Conducting scientific research and presenting its results

Test questions:

1. Analysis of collected information.
2. Organization of the actual theoretical and experimental scientific research. 4. Presentation of the results of the scientific research.

ASSIGNMENT: Format the scientific research paper according to the requirements. Write an abstract on the chosen topic.

Task No. 6

Abstract as a form of student research work

Test questions:

1. The concept of an abstract
2. Structure and content of the abstract

3. Design of the abstract

4. Abstract defense procedure

5. Criteria for evaluating the abstract

TASK: prepare an essay on the chosen topic.

Task No. 7

Presentation of scientific research

Test questions:

1. Planning the presentation.

2. Preparing the presentation.

3. Use of visual aids and illustrations in the presentation.

4. Conducting a presentation.

ASSIGNMENT: Prepare visual aids (a presentation) for the presentation. Prepare a report on the scientific research conducted.