



MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION  
Federal State Autonomous Educational Institution of Higher Education  
**"Far Eastern Federal University"**  
(FEFU)

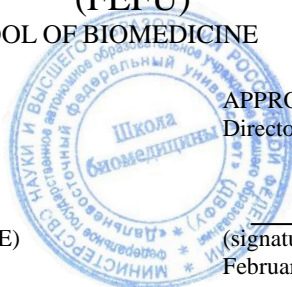
SCHOOL OF BIOMEDICINE

AGREED  
Head of OP

(signature)

February 02, 2021

Yu.S. Khotimchenko  
(FULL NAME)



APPROVE

Director of the Department of Pharmacy and Pharmacology

(signature) (I.O. Surname)

February 02, 2021

E.V. Khozhaenko

**WORKING PROGRAM OF THE DISCIPLINE**

Health Research Methodology

Area of study 32.04.01 Public health

Master's program "Leadership and governance in public health (program in English for foreign citizens)"

Form of training: full-time

course 1 semester 1

lectures at 6 p.m.

practical exercises are not provided.

laboratory work is not provided

including using MAO lek.10/prak.0 hour.

total classroom hours 18 hours.

including using MAO 10 hours

independent work 54 hours.

including exam preparation

control works (quantity) are not provided

credit 1 semester

The work program was compiled in accordance with the requirements of the Federal State Educational Standard in the field of study 32.04.01 Public Health, approved by order of the Ministry of Education and Science of Russia dated 31.05.2017 No. 485.

The work program was discussed at a meeting of the Department of Pharmacy and Pharmacology protocol No. 5 dated January 28, 2021.

Director of the Department Ph.D., E.V. Khozhaenko

Compiled by: Doctor of Medical Sciences, Ph.D., Professor Kiku P.F.

Reverse side of the title page of the RPD

1. The work program was revised at a meeting of the Department / department / department (implementing the discipline) and approved at a meeting of the Department / department / department (issuing structural unit), protocol dated “ \_\_\_\_ ” \_\_\_\_\_ 2021 No. \_\_\_\_\_
2. The work program was revised at a meeting of the Department / department / department (implementing the discipline) and approved at a meeting of the Department / department / department (issuing structural unit), protocol dated “ \_\_\_\_ ” \_\_\_\_\_ 2021 No. \_\_\_\_\_
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## I. Goals and objectives of mastering the discipline:

Target:

the study of the discipline is the acquisition by masters of theoretical knowledge and the formation of skills and abilities in the conduct, organization and performance of scientific work.

Tasks:

- familiarization with the history of medical science;
- study of the main directions and methods of scientific research in health care;
- acquisition of knowledge in the preparation of research papers and programs.
- Mastering the skills of performing research work.

As a result of studying this discipline, students form the following universal and general professional competencies (elements of competencies).

Universal competencies of graduates and indicators of their achievement:

Name of the category (group) of universal competencies	Code and name of universal competence (result of development)	Code and name of the indicator of achievement of competence
Development and implementation of projects	UK-2 Able to manage a project at all stages of its life cycle	UK-2.1 Carries out scientific research using modern ideas UK-2.2 Able to independently lead the team of authors in scientific professional activities UK-2.3 Knows the main points of the leader's work, team work, issues of modern law in medical practice
Teamwork and Leadership	UK-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal	UK-3.1 Knows the main provisions and norms of the leading branches of law to protect the professional activities of medical workers UK-3.2 Able to solve practical problems in the formation of a culture of professional communication between a doctor and patients, colleagues and the management of a medical organization UK-3.3 Has the skills to prepare proposals on certain issues of improving moral standards in the activities of medical organizations

General professional competencies of graduates and indicators of their achievement:

Name of the category (group) of general professional competencies	Code and name of general professional competence (result of development)	Code and name of the indicator of achievement of competence
Scientific and organizational activities	GPC-1 Ability to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	GPC-1.1 Knows the basics of applying scientific, research and production, design, organizational, managerial and regulatory documentation GPC-1.2 Knows how to use scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system GPC-1.3 Knows how to organize work on the use of scientific and production, design, organizational, managerial and regulatory documentation in the healthcare system

Code and wording of competence	Stages of competence formation	
UK-2 the ability to generate ideas in scientific and professional activities	Knows	principles for the development of research projects
	Can	apply knowledge to the development of a scientific project as part of a team of authors
	owns	skills in the development of scientific projects as part of the team of authors
UK-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal	Knows	concepts of leadership, teamwork, responsibility, modern aspects of medical law, the main provisions and norms of the leading branches of law (civil, family, labor, administrative law), as guarantors of ensuring the rights and legitimate interests of citizens of the Russian Federation in the field of healthcare
	Can	work in a team, able to act within the framework of agreed goals and objectives; able to take personal responsibility and leadership in the planning and implementation of professional activities - adequately apply the necessary rules of law in their professional activities and in the work of healthcare institutions, - to solve practical problems in the formation of a culture of professional communication between a doctor and patients, colleagues and management
	owns	concepts of leadership, teamwork, responsibility, modern aspects of medical law, the main provisions and norms of the leading branches of law (civil, family, labor, administrative law), as guarantors of ensuring the rights and legitimate interests of citizens of the Russian Federation in the field of healthcare

OPK-1 Ability to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	Knows	principles of preparation and application of scientific, research and production, design, organizational, managerial and regulatory documentation
	Can	prepare scientific, research and production, design, organizational, managerial and regulatory documentation on accounting and auditing
	owns	skills in preparing scientific, research and production, design, organizational, managerial and regulatory documentation for accounting and auditing

For the formation of the above competencies within the framework of the discipline "Health Research Methodology" the following methods of active / interactive learning are used: lectures - conferences, problem lectures, visualization lectures.

2. The complexity of the discipline and types of training sessions in the discipline

The total labor intensity of the discipline is 2 credit units (72 academic hours).  
(1 credit unit corresponds to 36 academic hours)

Designation	Types of training sessions and work of the student
Lek	Lectures
Lek electr.	
SR:	Independent work of the student during the period of theoretical training
including control	Independent work of the student and contact work of the student with the teacher during the period of intermediate certification
	And other types of work

### I. Discipline structure:

#### Full-time form of education

No.	Section name disciplines	Semester	The number of hours by type of training sessions and work of the student						Forms of intermediate certification
			Lek	Lab	Etc	OK	SR	Control	
1	Topic 1. History of medical science. Features of science in health care		2				6		
2	Topic 2. History of medical research in health care (2 hours)		2				6		

3	Topic 3. Stages of social and hygienic research		2				6		
4	Topic 4. Methodological approaches of scientific research in health care		2				6		
5	Topic 5. Stages of research work		2				6		
6	Topic 6. Quality as an object of scientific research		2				6		
7	Topic 7. Methods and indicators for evaluating the effectiveness of research work		2				6		
8	Topic 8. Qualitative and quantitative indicators used in the scientific activities of healthcare organizers		2				6		
9	Topic 9. Evaluation of the effectiveness of research work in health care		2				6		
Total:		1	18	-	-	-	54		offset

**I. CONTENT OF THE THEORETICAL PART OF THE COURSE  
(18 hours, including using MAO - 10 hours)**

**MODULE 1 THEORETICAL FOUNDATIONS OF SCIENTIFIC RESEARCH(6 pm)**

**Topic 1. History of medical science. Features of science in health care(2 hours)**

- The purpose of studying the discipline.
- Basic terms and definitions.
- Stages of development.

**Topic 2. History of medical research in health care(2 hours)**

1. Classification of scientific knowledge in medicine.
2. Experimental and theoretical studies.
3. The concept of paradigm, theory, laws in medical work.

**Topic 3. Stages of social and hygienic research(2 hours)**

1. Choice of scientific direction. Applied and fundamental research.
2. Definition of the goals and objectives of the study.

3. Development of the research program.
4. Evaluation of the material and preliminary analysis.
5. Statistical processing.
6. Conclusions and recommendations.

**Topic 4. Methodological approaches of scientific research in health care(2 hours)**

- Stages of sanitary and hygienic research of public health.
- Moscow (Lisitsyn) and St. Petersburg (Maimulov) schools of socio-hygienic research.

**Topic 5. Stages of research work(2 hours)**

- Choice of direction.
- Formulation of goals and objectives.
- Collection and processing of information.
- Presentation of results.

**Topic 6. Quality as an object of scientific research(2 hours)**

- The evolution of the science of the quality of medical care.
- Scientific schools in the field of quality of medical care.
- The quality of medical care as an object of scientific research.

**Topic 7. Methods and indicators for evaluating the effectiveness of research work(2 hours)**

- Efficiency: concept and essence.
- Criteria for choosing effective solutions.
- Methods for making effective decisions.

**Topic 8. Qualitative and quantitative indicators used in the scientific activities of healthcare organizers (2 hours)**

1. Qualitative indicators. Their characteristic.
2. Quantitative data. Their characteristic
3. Use of qualitative and quantitative data to evaluate the object of study.

**Topic 9. Evaluation of the effectiveness of research work in health care(2 hours)**

1. Scientific efficiency.
2. Economic efficiency.
3. Ways to implement the results of scientific work into practice.

#### **IV. STRUCTURE AND CONTENT OF THE PRACTICAL PART OF THE COURSE AND INDEPENDENT WORK**

Practical classes are not included in the curriculum

## Schedule for the implementation of independent work on the discipline

No. p/n	Date/Due dates	Type of independent work	Approximate lead times	form of control
1	1-6 weeks	Preparation of abstracts	18 hours	PR-7, UO-1
2	7-12 weeks	Presentation preparation	18 hours	UO-3
3	13-18 weeks	Preparation for the test	18 hours	offset

Independent work of students consists of working on the recommended literature, writing reports, essays on a given topic, preparing presentations.

The teacher offers each student individual and differentiated tasks. Some of them can be carried out in a group (for example, preparing a report and presentations on the same topic can be done by several students with a division of their duties - one prepares a scientific and theoretical part, and the second analyzes practice).

Tasks and guidelines for independent work provide the preparation of reports.

### Recommendations for independent work of students

The purpose of the student's independent work is to work meaningfully and independently first with educational material, then with scientific information, lay the foundations for self-organization and self-education in order to instill the ability to continuously improve their professional qualifications in the future.

The process of organizing independent work of students includes the following stages:

- preparatory (defining goals, drawing up a program, preparing methodological support);
- the main one (implementation of the program, use of methods of information search, assimilation, processing, application, transfer of knowledge, fixing the results, self-organization of the work process);
- final (assessment of the significance and analysis of the results, their systematization, evaluation of the effectiveness of the program and methods of work, conclusions about the directions of labor optimization).

In the process of independent work, the student acquires the skills of self-organization, self-control, self-government, self-reflection and becomes an active independent subject of educational activity. Independent work of students should have an important impact on the formation of the personality of a future specialist; it is planned by the student independently. Each student independently determines the mode of his work and the measure of labor expended on mastering the



educational content in each discipline. He performs extracurricular work according to a personal individual plan, depending on his preparation, time and other conditions.

### **Methodological recommendations for independent work of students**

As the material is mastered on the subject of the discipline, it is envisaged to carry out independent work of students in collecting and processing literary material to expand the field of knowledge in the discipline being studied. To study and fully master the program material in the discipline, educational, reference and other literature recommended by this program, as well as specialized periodicals, are used.

In self-preparation, students take notes on the material, independently study questions on the topics covered, using educational literature from the proposed list, periodicals, scientific and methodological information, databases of information networks (Internet, etc.).

Independent work consists of such types of work as work with lecture notes; studying material from textbooks, reference books, videos and presentations, as well as other reliable sources of information; preparation for the test / exam. To consolidate the material, it is enough, turning over the abstract or reading it, to mentally restore the material. If necessary, refer to the recommended educational and reference literature or to the teacher.

### **Requirements for the presentation and presentation of the results of independent work**

There are no special requirements for the presentation and presentation of the results of this independent work.

### **Recommendations for independent work of students**

The purpose of the student's independent work is to work meaningfully and independently first with educational material, then with scientific information, lay the foundations for self-organization and self-education in order to instill the ability to continuously improve their professional qualifications in the future.

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### **Methodological recommendations for independent work of students**

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### **Guidelines for writing and designing an abstract**

An abstract is a creative activity of a master, which reproduces in its structure research activities to solve theoretical and applied problems in a certain branch of scientific knowledge. Because of this, term paper is the most important component of the educational process in higher education.

The abstract, being a model of scientific research, is an independent work in which the master solves a problem of a theoretical or practical nature, applying the scientific principles and methods of this branch of scientific knowledge. The result of this scientific search may have not only subjective, but also objective scientific novelty, and therefore can be presented for discussion by the scientific community in the form of a scientific report or message at a scientific and practical conference, as well as in the form of a scientific article.

The abstract involves the acquisition of skills in building business cooperation based on ethical standards for the implementation of scientific activities. Purposefulness, initiative, disinterested cognitive interest, responsibility for the results of one's actions,

conscientiousness, competence are personality traits that characterize the subject of research activities that correspond to the ideals and norms of modern science.

The abstract is an independent educational and research activity of the master. The teacher provides advisory assistance and evaluates the process and results of the activity. He provides an approximate topic for abstracts, clarifies the problem and the topic of research together with the intern, helps to plan and organize research activities, appoints the time and minimum number of consultations.

The teacher accepts the text of the abstract for verification at least ten days before the defense.

Traditionally, a certain structure of the abstract has developed, the main elements of which, in the order of their location, are the following:

1. Title page.
2. Task.
3. Table of contents.
4. List of symbols, symbols and terms (if necessary).
5. Introduction.
6. The main part.
7. Conclusion.
8. Bibliographic list.
9. Applications.

The title page indicates: educational institution, graduating department, author, teacher, research topic, place and year of the abstract.

The title of the abstract should be as short as possible and fully correspond to its content.

The table of contents (content) reflects the names of the structural parts of the abstract and the pages on which they are located. It is advisable to place the table of contents at the beginning of work on one page.

The presence of a detailed introduction is a mandatory requirement for the abstract. Despite the small volume of this structural part, its writing causes considerable difficulties. However, it is a well-executed introduction that is the key to understanding the entire work and testifies to the professionalism of the author.

Thus, the introduction is a very important part of the abstract. The introduction should begin with a rationale for the relevance of the chosen topic. When applied to the abstract, the concept of "relevance" has one feature. From how the author of the abstract knows how to choose a topic and how correctly he understands and evaluates this topic from the point of view of modernity and social significance, characterizes his scientific maturity and professional readiness.

In addition, in the introduction it is necessary to isolate the methodological basis of the abstract, to name the authors whose works formed the theoretical basis of the

study. A review of the literature on the topic should show the author's thorough acquaintance with specialized literature, his ability to systematize sources, critically examine them, highlight the essential, determine the main thing in the current state of study of the topic.

The introduction reflects the significance and relevance of the chosen topic, defines the object and subject, purpose and objectives, and the chronological framework of the study.

The introduction ends with a statement of general conclusions about the scientific and practical significance of the topic, the degree of its study and availability of sources, and the formulation of a hypothesis.

In the main part, the essence of the problem is stated, the topic is revealed, the author's position is determined, factual material is given as an argument and for illustrations of the put forward provisions. The author needs to show the ability to consistently present the material while simultaneously analyzing it. Preference is given to the main facts, rather than small details.

The abstract ends with the final part, which is called the "conclusion". Like any conclusion, this part of the abstract plays the role of a conclusion determined by the logic of the study, which is in the form of a synthesis of the scientific information accumulated in the main part. This synthesis is a consistent, logically coherent presentation of the results obtained and their relationship with the general goal and specific tasks set and formulated in the introduction. It is here that the so-called "inferential" knowledge is contained, which is new in relation to the original knowledge. The conclusion may include suggestions of a practical nature, thereby increasing the value of theoretical materials.

So, in the conclusion of the abstract should be: a) the conclusions on the results of the study are presented; b) theoretical and practical significance, novelty of the abstract; c) the possibility of applying the results of the study is indicated.

After the conclusion, it is customary to place a bibliographic list of used literature. This list is one of the essential parts of the abstract and reflects the independent creative work of the author of the abstract.

The list of sources used is placed at the end of the work. It is issued either in alphabetical order (by the author's last name or the title of the book), or in the order in which references appear in the text of the written work. In all cases, the full title of the work, the names of the authors or the editor of the publication, if a team of authors participated in writing the book, data on the number of volumes, the name of the city and publishing house in which the work was published, the year of publication, the number of pages are indicated.

### **Guidelines for preparing presentations**

To prepare a presentation, it is recommended to use: PowerPoint, MS Word, Acrobat Reader, LaTeX beamer package. The simplest presentation program is Microsoft PowerPoint. To prepare the presentation, it is necessary to process the information collected when writing the abstract.

The sequence of preparation of the presentation:

1. Clearly state the purpose of the presentation.
2. Determine what will be the format of the presentation: live performance (then how long will it be) or email (what will be the context of the presentation).
3. Select all the content for the presentation and build a logical chain of presentation.
4. Identify key points in the content of the text and highlight them.
5. Determine the types of visualization (pictures) to display them on slides in accordance with the logic, purpose and specifics of the material.
6. Choose the design and format the slides (the number of pictures and text, their location, color and size).
7. Check the visual perception of the presentation.

Visualization types include illustrations, images, diagrams, tables. An illustration is a representation of a real-life visual range. Images, unlike illustrations, are metaphors. Their purpose is to evoke emotion and create an attitude towards it, to influence the audience. With the help of well-thought-out and presented images, information can remain in a person's memory for a long time. Diagram - visualization of quantitative and qualitative relationships. They are used to convincingly demonstrate data, for spatial reasoning in addition to logical reasoning. A table is a concrete, visual and accurate display of data. Its main purpose is to structure information, which sometimes makes it easier for the audience to perceive the data.

#### *Practical Tips for Preparing a Presentation*

- printed text + slides + handouts are prepared separately;
- slides - a visual presentation of information, which should contain a minimum of text, a maximum of images that carry a semantic load, look clear and simple;
- the textual content of the presentation - oral speech or reading, which should include arguments, facts, evidence and emotions;
- recommended number of slides 17-22;
- mandatory information for the presentation: topic, surname and initials of the speaker; message plan; brief conclusions from what has been said; list of sources used;
- handouts – should provide the same depth and scope as a live performance: people trust what they can carry with them more than disappearing images, words

and slides are forgotten, and handouts remain a constant tangible reminder; it is important to hand out handouts at the end of the presentation; handouts should be different from slides, should be more informative.

### **Abstract Evaluation Criteria**

The stated understanding of the abstract as a holistic author's text determines the criteria for its evaluation: the novelty of the text; the validity of the choice of source; the degree of disclosure of the essence of the issue; compliance with formatting requirements.

**Text novelty:**a) the relevance of the research topic; b) novelty and independence in posing the problem, formulating a new aspect of a well-known problem in establishing new connections (interdisciplinary, intradisciplinary, integration); c) the ability to work with research, critical literature, systematize and structure the material; d) the manifestation of the author's position, the independence of assessments and judgments; e) stylistic unity of the text, unity of genre features.

**The degree of disclosure of the essence of the issue:**a) compliance of the plan with the topic of the essay; b) compliance of the content with the topic and plan of the abstract; c) completeness and depth of knowledge on the topic; d) the validity of the methods and methods of working with the material; f) the ability to generalize, draw conclusions, compare different points of view on one issue (problem).

**The validity of the choice of sources:**a) assessment of the literature used: whether the most famous works on the research topic were involved (including journal publications of recent years, the latest statistics, summaries, references, etc.).

**Compliance with formatting requirements:**a) how correctly the references to the literature used, the list of references are drawn up; b) assessment of literacy and culture of presentation (including spelling, punctuation, stylistic culture), knowledge of terminology; c) compliance with the requirements for the volume of the abstract.

**The reviewer should clearly articulate** remarks and questions, preferably with links to the work (possible to specific pages of the work), to research and factual data that the author did not take into account.

**The reviewer may also indicate:**did you apply master's degree on the topic earlier (abstracts, written works, creative works, olympiad works, etc.) and whether there are any preliminary results; how the graduate did the work (plan, intermediate stages, consultation, revision and revision of the written or lack of a clear plan, rejection of the leader's recommendations).

The master submits an abstract for review no later than a week before the defense. The teacher is the reviewer. Experience shows that it is advisable to familiarize the master with the review a few days before the defense. Opponents are

appointed by a teacher from among the masters. For an oral presentation, 10-20 minutes are enough (approximately so much time answers the tickets for the exam).

**Grade 5** it is set if all the requirements for writing and defending the abstract are met: the problem is identified and its relevance is justified, a brief analysis of various points of view on the problem under consideration is made and one's own position is logically stated, conclusions are formulated, the topic is fully disclosed, the volume is maintained, the requirements for external design are met, correct answers were given to additional questions.

**Grade 4**— the basic requirements for the abstract and its defense are met, but there are some shortcomings. In particular, there are inaccuracies in the presentation of the material; there is no logical sequence in judgments; the volume of the abstract is not maintained; there are omissions in the design; incomplete answers were given to additional questions during the defense.

**Grade 3**— there are significant deviations from the requirements for referencing. In particular: the topic is covered only partially; Factual errors were made in the content of the abstract or when answering additional questions; no output during protection.

**Grade 2**- the topic of the abstract is not disclosed, a significant misunderstanding of the problem is revealed.

**Grade 1**- Abstract not submitted.

### **Essay topics**

1. The history of the development of scientific medical thought.
2. System characteristics of scientific research in medicine.
3. The essence of the scientific approach in research in public health and medicine.
4. Major species in health research.
5. Formation of research programs.
6. The value of research programs in the activities of health authorities and institutions.
7. Indicators and criteria for the medical effectiveness of health care institutions.
8. Methods and methods of management decisions.
9. Evaluation of the effectiveness of decisions under conditions of uncertainty and risk.
10. Research tools in public health and healthcare.
11. The study of interrelations in the "population-health-health" system.
12. Scientific research in assessing the quality of medical care.

### **Criteria for evaluating the performance of independent work**

*Evaluation of independent work* is carried out according to the following criteria:

- the completeness and quality of the tasks performed;
- possession of methods and techniques of computer modeling in the issues under study, the use of software tools;
- the quality of the report design, the use of rules and standards for the design of text and electronic documents;
- use of data from domestic and foreign literature, Internet sources, regulatory information and best practices;
- absence of factual errors related to understanding the problem.

When evaluating students' knowledge, not only the amount of knowledge is taken into account, but, first of all, the quality of assimilation of the material, understanding the logic of the academic discipline, the ability to freely, competently, logically present what has been learned is evaluated, the ability to reasonably defend one's own point of view.

“Excellent” marks the answer to independent tasks, in which the material is systematically, logically and consistently presented.

The “good” rating implies knowledge of the material and the ability to draw independent conclusions, comment on the material presented; answer with minor flaws.

Assimilation of the material is assessed as "satisfactory" when the student has not studied some sections deeply enough, allows fuzzy formulations, and gives incomplete answers.

"Unsatisfactory" is put in the case when the student does not know a significant part of the educational material, makes significant mistakes; knowledge is unsystematic.

### **Abstract Evaluation Criteria**

- 100-86 points are given to the student if the student expressed his opinion on the formulated problem, argued it, accurately defining its content and components. The data of domestic and foreign literature, statistical information, information of a regulatory nature are given. The student knows and owns the skill of independent research work on the research topic; methods and techniques for analyzing the theoretical and / or practical aspects of the area under study.

- 85-76 - points - the work is characterized by semantic integrity, coherence and consistency of presentation; no more than 1 mistake was made when explaining the meaning or content of the problem. For argumentation, data of domestic and foreign authors are given. Demonstrated research skills and abilities. There are no actual errors related to understanding the problem.



- 75-61 points - the student conducts a fairly independent analysis of the main stages and semantic components of the problem; understands the basic foundations and theoretical justification of the chosen topic. The main sources on the topic under consideration are attracted. No more than 2 errors were made in the sense or content of the problem.

- 60-50 points - if the work is a retold or completely rewritten source text without any comments or analysis. The structure and theoretical component of the topic is not disclosed. Three or more than three errors were made in the semantic content of the problem being disclosed.

## **V. EDUCATIONAL AND METHODOLOGICAL PROVISION OF STUDENTS' INDEPENDENT WORK**

Independent work is defined as an individual or collective learning activity carried out without the direct guidance of a teacher, but according to his instructions and under his control. Independent work is a cognitive learning activity, when the sequence of a student's thinking, his mental and practical operations and actions depends and is determined by the student himself.

Independent work of students contributes to the development of independence, responsibility and organization, a creative approach to solving problems at the educational and professional levels, which ultimately leads to the development of the skill of independent planning and implementation of activities.

The purpose of independent work of students is to master the necessary competencies in their field of study, experience in creative and research activities.

Forms of independent work of students:

- work with basic and additional literature, Internet resources;
- self-acquaintance with the lecture material presented on electronic media in the library of an educational institution;
- preparation of abstract reviews of sources of periodicals, reference notes, predetermined by the teacher;
- search for information on the topic with its subsequent presentation to the audience in the form of a report, presentations;
- preparation for the implementation of classroom control work;
- performance of home control works;
- performance of test tasks, problem solving;
- drawing up crossword puzzles, schemes;
- preparation of reports for presentation at a seminar, conference;
- filling out a workbook;
- essay writing, term paper;
- preparation for business and role-playing games;

- compiling a resume;
- preparation for tests and exams;
- other kinds activities, organized And carried out educational institution and student self-government bodies.

## VI. CONTROL OF ACHIEVEMENTS OF THE GOALS OF THE COURSE

No. p / p	Controlled modules / sections / topics of the discipline	Codes and stages of formation of competencies		Appraisal tools - name	
				current control	intermediate certification
1	Section 1. Fundamentals of Scientific Research Topic 1-3	UK-2.1; UK-2.2; UK-2.3;	Knows the main trends of modern science	UO-1 PR-7	Questions for offset from 1-7; 78-84, s29-30,34,35,85
			able to identify the specifics of technical knowledge	PR-1, UO-4, PR-4	practical tasks 2-3
			owns the main topics of scientific research in medicine	UO-4 PR-13	creative task
2	Section 2. research methodology Topic 7,8,9	UK-3.1; UK-3.2; UK-3.3;	Knows how to organize and conduct theoretical and experimental research;	UO-3	practical work in the library
			Able to plan research and process information; develop and implement measures aimed at ensuring the effectiveness of technical and other systems	PR-1 UO-3, UO-4	practical work in the library
			Owns methods of conducting theoretical and experimental research; modeling methods	PR-13	questions for offset from 9-36; 39-72
3	Section 2. research methodology Topic 4, 5,6	GPC-1.1; GPC-1.2; GPC-1.3	Knows how to conduct patent research. Authors' rights.	PR-7 UO-3	questions for the test 37-39
			Able to conduct research and present results in a	PR-1 UO-4	round table questions

			copyright-friendly manner		
			Owens the methodology of conducting and evaluating research. Legislative framework in the field of protection of intellectual property rights	UO-4	round table questions

UO-1 - interview;  
PR-7 abstract  
UO-3 - report, message;  
UO-4 - round table, discussion;  
PR-13 - creative task

## **VII. EDUCATIONAL AND METHODOLOGICAL SUPPORT OF DISCIPLINE**

### **Main literature**

1. Lapaeva M.G. Methodology of scientific research [Electronic resource]: study guide / M.G. Lapaeva, S.P. Lapaev. — Electron. text data. - Orenburg: Orenburg State University, EBS DIA, 2017. - 249 p. — 978-5-7410-1791-3. - Access mode: <http://www.iprbookshop.ru/78787.html>

2. Trubitsyn V.A. Fundamentals of scientific research [Electronic resource]: textbook / V.A. Trubitsyn, A.A. Porokhnya, V.V. Meleshyn. — Electron. text data. - Stavropol: North Caucasian Federal University, 2016. - 149p. <http://www.iprbookshop.ru/66036.html>

3. Methodology of scientific research [Electronic resource]: textbook / D.E. Abramnikov [i dr.]. — Electron. text data. - Novosibirsk: Novosibirsk State University of Architecture and Civil Engineering (Sibstrin), 2015. - 317 p. <http://www.iprbookshop.ru/68787.html>

4. Aksyanova A.V. innovation statistics. Problems, methodology and research prospects [Electronic resource]: monograph / A.V. Aksyanov. — Electron. text data. - Kazan: Kazan National Research Technological University, 2015. - 87 p. <http://www.iprbookshop.ru/64004.html>

5. Kentbaeva B.A. Methodology of scientific research [Electronic resource]: textbook / B.A. Kentbaeva. — Electron. text data. - Almaty: Nur-Print, 2014.- 209 p. <http://www.iprbookshop.ru/69140.html>

6. Skvortsova L.M. Methodology of scientific research [Electronic resource]: study guide / L.M. Skvortsova. — Electron. text data. - M.: Moscow State University of Civil Engineering, IP Air Media, EBS DIA, 2014.-79 p.<http://www.iprbookshop.ru/27036.html>

7. Kravtsova, E. D. Logic and methodology of scientific research [Electronic resource]: textbook. allowance / E. D. Kravtsova, A. N. Gorodishcheva. – Krasnoyarsk: Sib. feder. un-t, 2014. - 168 p.<http://znanium.com/catalog.php?bookinfo=507377>

### **additional literature**

1. Patent database and search <http://www.freepatent.ru/>
2. Internet portal for healthcare <http://bio-x.ru/go.mail.ru/search?rf=e.mail.ru&fm=1&us=15&usln=3&usstr=health&usqid=7d41348ea69338f3&hasnavig=1&sbmt=1509229987234&q=health>
3. Research site <https://infopedia.su/4x3e87.html>;  
<https://dic.academic.ru/dic.nsf/ruwiki/663252>
4. SSAU Electronic Library -<http://library.sgau.ru>
5. NEB -<http://elibrary.ru>
6. <http://edu.znate.ru/docs/3997/index-94535-6.html>

### **The list of resources of the information and telecommunication environment "Internet" necessary for the development of the discipline**

1. student library <http://www.studmedlib.ru>
2. <http://www.pharmed.uz/literatura/40102-pathofiziologiya.html>
3. <http://medi.ru/doc/80.htm>
4. <http://www.cytokines.ru/>
5. <http://www.scsml.rssi.ru/>
6. <http://med-lib.ru/speclit/patfiz/index.php>
7. <http://www.medliter.ru/?page=list&id=09>
8. <http://www.rmj.ru/medjurnrus.htm>
9. Spravochno-legal system Consultant plus.

### **List of information technologies and software**

- Microsoft Office Professional Plus 2010;  
- an office suite that includes software for working with various types of documents (texts, spreadsheets, databases, etc.);
- 7Zip 9.20 - free file archiver with a high degree of data compression;
- ABBYY FineReader 11 - software for optical character recognition;

–Adobe Acrobat XI Pro - a software package for creating and viewing electronic publications in PDF format;

–ESET Endpoint Security - comprehensive protection of workstations based on Windows OS. Virtualization support + new technologies;

–WinDjView 2.0.2 is a program for recognizing and viewing files with the same name format DJV and DjVu.

Use of site

videos<https://infopedia.su/4x3e87.html>;<https://dic.academic.ru/dic.nsf/ruwiki/6632>  
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## **VI. METHODOLOGICAL INSTRUCTIONS FOR MASTERING THE DISCIPLINE**

The theoretical part of the discipline "Methodology of scientific research" is revealed in lectures, since the lecture is the main form of education, where the teacher gives the basic concepts of the discipline.

The sequence of presenting the material in lectures is aimed at forming an indicative basis for students to subsequently master the material during independent work.

Active consolidation of theoretical knowledge is facilitated by the discussion of problematic aspects of the discipline in the form of a seminar and classes using active learning methods. At the same time, the development of skills of independent research activity in the process of working with scientific literature, periodicals, the formation of the ability to reasonably defend one's point of view, listen to others, answer questions, and lead a discussion take place.

*Lecture classes* are focused on highlighting the main topics in each section of the course and are designed to orient students in the proposed material, lay the scientific and methodological foundations for further independent work of students.

Particularly significant for the professional training of students is independent work on the course. In the course of this work, students select the necessary material on the issue under study and analyze it. Independent work with literature includes such techniques as drawing up a plan, theses, abstracts, annotating sources, writing tests.

Students need to be introduced to the main sources, without which it is impossible to fully understand the issues of the course. Therefore, these sources are recommended for students to study at home and are included in the program.

Mastering the course should contribute to the development of skills for reasonable and independent assessments of facts and scientific concepts. Therefore, in all forms of knowledge control, especially when passing a test, attention should

be paid to understanding the main problem field, to the ability to critically use its results and conclusions.

In the process of teaching the discipline, the following methods of active / interactive learning are used:

Lectures:

### **1. Problem lecture.**

The lecture begins with the teacher posing problems that are solved in the course of presenting the material. The answer to the problem requires thinking of the entire audience. During the lecture, students' thinking occurs with the help of the teacher creating a problem situation before they receive all the necessary information that constitutes new knowledge for them. Thus, students independently try to find a solution to the problem situation.

Educational problems are available according to their difficulty for students, they take into account the cognitive capabilities of students, proceed from the subject being studied and are significant for the assimilation of new material and personal development - general and professional.

The problem lecture provides creative assimilation by future specialists of the principles and patterns of the studied science, activates the educational and cognitive activity of students, their independent classroom and extracurricular work, the assimilation of knowledge and their application in practical classes.

The goal of the teacher is to organize collective mental activity to find non-traditional ways to solve problems, when discussing controversial issues, hypotheses, problematic or conflict situations.

When writing essays, it is recommended to independently find literature for it. The abstract reveals the content of the problem under study. Working on an essay helps to deepen the understanding of individual issues of the course, form and defend one's point of view, acquire and improve the skills of independent creative work, and conduct active cognitive work.

An interview and a survey are conducted to conduct ongoing monitoring and intermediate certification.

## **VII. LOGISTICS AND TECHNICAL SUPPORT OF THE DISCIPLINE**

The material and technical support for the implementation of the discipline includes classrooms for lectures and practical classes, equipped with multimedia support and corresponding to sanitary and fire rules and regulations.

In order to provide special conditions for the education of people with disabilities and people with disabilities in FEFU, all buildings are equipped with

ramps, elevators, lifts, specialized places equipped with toilets, information and navigation support signs.

Name of equipped premises and premises for independent work	List of main equipment
690922, Primorsky Territory, Vladivostok, Russian Island, Saperny Peninsula, Ayaks village, 10, School of Biomedicine, room M 422, area 158.6 m <sup>2</sup>	Multimedia Audience: Motorized Screen 236*147cm Trim Screen Line; Projector DLP, 3000 ANSI Lm, WXGA 1280x800, 2000:1 EW330U Mitsubishi; document camera CP355AF Avervision, video camera MP-HD718 Multipix; Subsystem of specialized equipment fastenings CORSA-2007 Tuarex; Video switching subsystem: Audio switching and sound amplification subsystem: power amplifier, wireless LAN based on 802.11a/b/g/n 2x2 MIMO(2SS) access points.
690922, Primorsky Territory, Vladivostok, Russian Island, Saperny Peninsula, Ayaks settlement, 10, room M612, area 47.2 m <sup>2</sup>	Computer class for 22 workplaces: HP ProOpe 400 All-in-One 19.5 (1600x900), Core i3-4150T, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, DVD+/-RW, GigEth, Wi-Fi, W, usb kbd/ mse, Win7Pro(64-bit)+Win8.1Pro(64-bit), 1-1-1 Wty (25 pcs.)
Reading rooms of the FEFU Scientific Library with open access to the fund (building A - level 10)	HP ProOpe 400 All-in-One 19.5 (1600x900), Core i3-4150T, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, DVD+/-RW, GigEth, Wi-Fi, BT, usb kbd/ mse, Win7Pro (64-bit)+Win8.1Pro(64-bit), 1-1-1 Wty Internet access speed 500 Mbps. Workplaces for people with disabilities are equipped with Braille displays and printers; equipped with: portable devices for reading flat-print texts, scanning and reading machines, a video enlarger with the ability to regulate color spectra; magnifying electronic loupes and ultrasonic markers

## X. VALUATION FUND

### FOS passport

in the discipline "Health Research Methodology"

Name of the category (group) of universal competencies	Code and name of universal competence (result of development)	Code and name of the indicator of achievement of competence
Development and implementation of projects	UK-2 Able to manage a project at all stages of its life cycle	UK-2.1 Carries out scientific research using modern ideas UK-2.2 Able to independently lead the team of authors in scientific professional activities UK-2.3 Knows the main points of the leader's work, team work, issues of modern law in medical practice

Name of the category (group) of universal competencies	Code and name of universal competence (result of development)	Code and name of the indicator of achievement of competence
Teamwork and Leadership	UK-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal	UK-3.1 Knows the main provisions and norms of the leading branches of law to protect the professional activities of medical workers UK-3.2 Able to solve practical problems in the formation of a culture of professional communication between a doctor and patients, colleagues and the management of a medical organization UK-3.3 Has the skills to prepare proposals on certain issues of improving moral standards in the activities of medical organizations

General professional competencies of graduates and indicators of their achievement:

Name of the category (group) of general professional competencies	Code and name of general professional competence (result of development)	Code and name of the indicator of achievement of competence
Scientific and organizational activities	GPC-1 Ability to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	GPC-1.1 Knows the basics of applying scientific, research and production, design, organizational, managerial and regulatory documentation GPC-1.2 Knows how to use scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system GPC-1.3 Knows how to organize work on the use of scientific and production, design, organizational, managerial and regulatory documentation in the healthcare system

Code and wording of competence	Stages of competence formation	
UK-2 the ability to generate ideas in scientific and professional activities	Knows	principles for the development of research projects
	Can	apply knowledge to the development of a scientific project as part of a team of authors
	owns	skills in the development of scientific projects as part of the team of authors
UK-3 Able to organize and manage the work of the team, developing a team	Knows	concepts of leadership, teamwork, responsibility, modern aspects of medical law, the main provisions and norms of the leading branches of law (civil, family, labor, administrative law), as guarantors of



strategy to achieve the goal		ensuring the rights and legitimate interests of citizens of the Russian Federation in the field of healthcare
	Can	work in a team, able to act within the framework of agreed goals and objectives; able to take personal responsibility and leadership in the planning and implementation of professional activities - adequately apply the necessary rules of law in their professional activities and in the work of healthcare institutions, - to solve practical problems in the formation of a culture of professional communication between a doctor and patients, colleagues and management
	owns	concepts of leadership, teamwork, responsibility, modern aspects of medical law, the main provisions and norms of the leading branches of law (civil, family, labor, administrative law), as guarantors of ensuring the rights and legitimate interests of citizens of the Russian Federation in the field of healthcare
OPK-1 Ability to prepare and apply scientific, research and production, design, organizational, managerial and regulatory documentation in the healthcare system	Knows	principles of preparation and application of scientific, research and production, design, organizational, managerial and regulatory documentation
	Can	prepare scientific, research and production, design, organizational, managerial and regulatory documentation on accounting and auditing
	owns	skills in preparing scientific, research and production, design, organizational, managerial and regulatory documentation for accounting and auditing

No. p / p	Controlled modules / sections / topics of the discipline	Codes and stages of formation of competencies		Appraisal tools - name	
				current control	intermediate certification
1	Section 1.Fundamentals of Scientific Research Topic 1-3	UK-2.1; UK-2.2; UK-2.3;	Knows the main trends of modern science	UO-1 PR-7	Questions for offset from 1-7; 78-84, s29-30,34,35,85
			able to identify the specifics of technical knowledge	PR-1, UO-4, PR-4	practical tasks 2-3
			owns the main topics of scientific research in medicine	UO-4 PR-13	creative task
2	Section 2. research methodology Topic 7,8,9	UK-3.1; UK-3.2; UK-3.3;	Knows how to organize and conduct theoretical and experimental research;	UO-3	practical work in the library

			Able to plan research and process information; develop and implement measures aimed at ensuring the effectiveness of technical and other systems	PR-1 UO-3, UO-4	practical work in the library
			Owens methods of conducting theoretical and experimental research; modeling methods	PR-13	questions for offset from 9-36; 39-72
3	Section 2. research methodology Topic 4, 5,6	GPC-1.1; GPC-1.2; GPC-1.3	Knows how to conduct patent research. Authors' rights.	PR-7 UO-3	questions for the test 37-39
			Able to conduct research and present results in a copyright-friendly manner	PR-1 UO-4	round table questions
			Owens the methodology of conducting and evaluating research. Legislative framework in the field of protection of intellectual property rights	UO-4	round table questions

**Competence level assessment scale  
in the discipline "Health Research Methodology"**

Code and wording of competence	Stages of competence formation		criteria	indicators	points
UK-2 the ability to generate ideas in scientific and professional activities	knows (threshold level)	Principles for the development of research projects	Knows the methods of scientific research	Carries out scientific research using modern ideas	61-70
	can (advanced)	Apply knowledge to the development of a scientific project as part of a team of authors	Able to participate in a scientific project in a team of authors	Independently leads the team of authors in scientific professional activities	71-84
	owns (high)	Skills in the development of scientific projects as part of a team of authors	Able to participate in the development of a scientific project in a team of authors	Independently leads the team of authors in scientific professional activities	85-100

UK-3 the ability to organize and manage the work of a team, developing a team strategy to achieve the goal	knows (threshold level)	The concepts of leadership, teamwork, responsibility, modern aspects of medical law, the main provisions and norms of the leading branches of law (civil, family, labor, administrative law), as guarantors of ensuring the rights and legitimate interests of citizens of the Russian Federation in the field of healthcare	Knowledge of the main points of the leader's work, teamwork, issues of modern law in medical practice	Ability to use the main provisions and norms of the leading branches of law to protect professional activities	61-70
	can (advanced)	work in a team, able to act within the framework of agreed goals and objectives; able to take personal responsibility and leadership in the planning and implementation of professional activities	Adequately apply the necessary rules of law in their professional activities and in the work of healthcare institutions	Solve practical problems to form a culture of professional communication between a doctor and patients, colleagues and management	71-84
	owns (high)	teamwork skills; the ability to act within the framework of agreed goals and objectives; the ability to take personal responsibility and leadership in the planning and implementation of professional activities, tolerantly perceiving social, ethnic, professional and cultural differences	Analytical skills analysis of the impact of a doctor's professional ethics on the quality and availability of medical care to patients	Prepares proposals on certain issues of improving moral standards in the activities of medical organizations.	85-100
OPK-1 ability to prepare and apply scientific, research and production,	knows (threshold level)	principles of preparation and application of scientific, research and production, design, organizational, managerial and	Basic knowledge of application scientific, research and production, design, organizational, managerial and	Ability to explain and apply scientific, research and production, design, organizational, managerial and regulatory documentation	61-70

design, organizational, managerial and regulatory documentation in the healthcare system		regulatory documentation	regulatory documentation		
	can (advanced)	prepare scientific, research and production, design, organizational, managerial and regulatory documentation on accounting and auditing	Ability to use knowledge	Ability to justify a research program	71-84
	owns (high)	skills in preparing scientific, research and production, design, organizational, managerial and regulatory documentation for accounting and auditing	Possession of ways to manage research work	The ability to formulate goals, objectives, stages of the scientific process	85-100
PC-1 The ability to calculate, evaluate and analyze indicators characterizing the activities of a medical organization, and indicators characterizing the state of health of the population	Knows	Principles for organizing applied and practical projects and other activities for the study and modeling of social, economic, epidemiological and other conditions that affect the health and quality of life of the population	Knows modern organizations of applied and practical projects and other activities for the study and modeling	Knowledge and use in practical work of the principles of organizing applied and practical projects to study social, economic and anti-epidemic conditions that affect public health	65-71
	Can	Implement applied and practical projects and other activities to study and model social, economic, epidemiological and other conditions that affect the health and quality of life of the population	Apply applied and practical projects and other activities to study the conditions that affect the health and quality of life of the population	Apply in practice practical projects and other activities to study the conditions that affect the health and quality of life of the population	71-84
	owns	Skills in organizing applied and practical projects and other activities to study and model social, economic, epidemiological and other conditions that affect the health and	Able to organize practical projects to identify conditions that affect the health status and quality of life of the population	Owens the principles of organizing applied and practical projects and other activities to study the conditions and risk factors that affect the health	85-100

		quality of life of the population		and quality of life of the population	
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### **Methodological recommendations that determine the procedures for evaluating the results of mastering the discipline**

**Current certification of students.** It is carried out in accordance with the local regulations of the Far Eastern Federal University and is mandatory. It is carried out in the form of control measures: the defense of a test, an interview to assess the actual results of students' learning and is carried out by a leading teacher.

The objects of assessment are:

- academic discipline (activity in the classroom, the timeliness of the implementation of various types of tasks, attendance at all types of classes in the discipline being certified);
- the degree of assimilation of theoretical knowledge (survey);
- the level of mastery of practical skills and abilities in all types of educational work (colloquium);
- results of independent work.

**Intermediate certification of students.** It is carried out in accordance with the local regulations of the Far Eastern Federal University and is mandatory. Provides for the accounting of the results of all stages of the development of the course. Provided that two stages of the current attestation have been successfully passed, the student is given an intermediate attestation (test, exam).

**Test and examination materials.** When assessing students' knowledge, intermediate control takes into account the amount of knowledge, the quality of their assimilation, understanding the logic of the academic discipline, the place of each topic in the course. The ability to freely, competently, logically coherently present what has been studied, the ability to reasonably defend one's own point of view are assessed.

#### **I. Evaluation tools for intermediate certification**

Intermediate certification includes the student's answer to the test questions.

##### **Questions for offset**

1. Social cognition and its features. The concept of methodology as a theory of scientific knowledge of society.
2. Methodology of knowledge of socio-political processes: essence, structure, subject, purpose and tasks.
3. Comparative characteristics of the sociological and historical knowledge.
4. Sociological and historical approaches. Methodological principles.

5. The concept of research. The structure of the study of social processes.
6. Description of social factors and interpretation (explanation) social facts.
7. Social law as a basis for explanation and formation conclusions. Sociological and historical laws.
8. Use of research results.
9. The concept of scientific method.
10. Analysis and synthesis.
11. Induction and its types. Deduction.
12. Analogy and modeling.
13. Scientific research methods: building a theoretical knowledge.
14. Scientific research methods: building an empirical knowledge.
15. Analysis of documents as a research method.
16. Method of peer review.
17. Poll and its types.
18. Observation as a research method.
19. Method of experiment in sociological research.
20. Choice of data collection methodology.
21. Stages and structure of the sociological research process.
22. Justification of the reliability of the results of sociological research.
23. Selective method in sociological research. Main sampling concepts.
24. Principles of random and non-random selection. Sample types.
25. Methods for collecting empirical information: general scientific and private scientific methods and their cognitive capabilities.
26. Types of research strategies.
27. Methods of data processing and analysis, their relationship with methods collection of information.
28. Primary control and preparation for array processing collected empirical data.
29. Research report: types of reports and presentation forms results.
30. Capabilities and procedures for development and implementation practical recommendations.
31. Statistical tradition in the development of a sociological survey.

32. Types of survey: the basis of classification (overview).
33. Types of surveys at the venue, their cognitive opportunities and limitations, organizational and methodological features.
34. Types of documentary sources and their basis classification.
35. Types of statistical sources and their use in sociological research.
36. Non-formalized (traditional, intuitive, qualitative) analysis of documents: methodological principles and procedures.
37. Protection of intellectual property
38. Copyright and its protection
39. Who is the author of a scientific study, co-authorship.
37. Types of observation: bases of classification\*
38. Control of the reliability of the results of observation.
39. The specificity of the experiment in sociology.
40. Types of experiments: the basis of classification.
41. The main stages of formation and development of science in Russia.
42. Concepts of method and methodology of scientific research.
43. Scientific research: subject, object, stages.
44. Scientific research: goals, objectives, means and methods.
45. Main sources of scientific information and methods of its collection.
46. Scientific facts and their role in scientific research.
47. Scientific hypothesis: its content, promotion and generalization.
48. The concept and content of the levels of scientific research.
49. Methods for collecting and summarizing scientific information.
50. Philosophical and general scientific methods of scientific research.
51. Private and special methods of scientific research
52. Documentary sources of scientific information and their analysis.
53. General logical methods.
54. Methods of empirical and theoretical research.
55. The concept of a scientific problem, its formulation and formulation.
56. The structure and main elements of the scientific sociological research.
57. Stages and structure of the sociological research process.
58. Justification of the reliability of the results of sociological research.
59. Historical aspects of scientific medical research.
60. Object and subject of scientific research.
61. Basic methods of scientific research in public health and medicine.

62. Fundamental and applied scientific research in medicine.
63. The concepts of "theory", "method", "paradigm".
64. Goals and objectives of scientific research in health care.
65. Differences and similarities of sciences about nature, society, medicine, technology.
66. Criteria and indicators of the effectiveness of scientific research.
67. Application of research programs to improve the effectiveness of health care.
68. Basic scientific programs and tasks for the needs of regional health care.
69. Selective method in sociological research. Main sampling concepts.
70. Preparation of a study report. Types of reports and forms presentation of results.
71. Types of survey: grounds for classification (overview).
72. Phases of the survey and types of questions on methodological functions.
73. Types of documentary sources and their basis classification.
74. Types of statistical sources and their use in sociological research.
75. Formalized analysis of documents (content analysis).
76. Specificity of the method of observation in sociology. Types of observation:  
basis of classification.
77. Control of the reliability of the results of observation. Specificity experiment.
78. Organization of research work in Russia.
79. Organization and methodology of research work students.
80. Scientific research and stages of research work.
81. Organization of the preparation of scientific and scientific-pedagogical personnel in Russia.
82. General requirements for the design and publication of scientific research.

**Criteria for grading a student in the credit for the discipline "Health Research Methodology"**

Credit score	Requirements for the formed competencies
"passed"	The grade "passed" is given to the student if he knows the material well, presents it competently and to the point, avoids significant



	inaccuracies in answering the question, correctly applies the theoretical provisions in solving practical issues and tasks, possesses the necessary skills and techniques for their implementation
"not counted"	The "failed" mark is given to a student who does not know a significant part of the program material, makes significant mistakes, uncertainly, with great difficulty answers the questions posed. As a rule, the "failed" mark is given to students who cannot continue their studies without additional classes in the relevant discipline.

## **II. Evaluation tools for current certification**

### **Abstract Evaluation Criteria**

- 100-86 points are given to the student if the student expressed his opinion on the formulated problem, argued it, accurately defining its content and components. The data of domestic and foreign literature, statistical information, information of a regulatory nature are given. The student knows and owns the skill of independent research work on the research topic; methods and techniques for analyzing the theoretical and / or practical aspects of the area under study.

- 85-76 - points - the work is characterized by semantic integrity, coherence and consistency of presentation; no more than 1 mistake was made when explaining the meaning or content of the problem. For argumentation, data of domestic and foreign authors are given. Demonstrated research skills and abilities. There are no actual errors related to understanding the problem.

- 75-61 points - the student conducts a fairly independent analysis of the main stages and semantic components of the problem; understands the basic foundations and theoretical justification of the chosen topic. The main sources on the topic under consideration are attracted. No more than 2 errors were made in the sense or content of the problem.

- 60-50 points - if the work is a retold or completely rewritten source text without any comments or analysis. The structure and theoretical component of the topic is not disclosed. Three or more than three errors were made in the semantic content of the problem being disclosed.

**Control tests** are intended for masters studying the course "Health of the population of the region and health care priorities".

When working with tests, it is proposed to choose one answer option from three to four offered. At the same time, the tests are not the same in their complexity. Among the proposed there are tests that contain several options for correct answers. All correct answers must be provided.

Tests are designed for both individual and collective decision. They can be used in both classroom and self-study. The selection of tests necessary for the control of knowledge in the process of intermediate certification is made by each teacher

individually.

The results of the test tasks are evaluated by the teacher on a five-point scale for attestation or according to the "pass" - "fail" system. The grade "excellent" is given with the correct answer to more than 90% of the tests proposed by the teacher. Rating "good" - with the correct answer to more than 70% of the tests. Grade "satisfactory" - with the correct answer to 50% of the proposed tests.

### **Test questions**

#### **by discipline"Health Research Methodology»**

##### **1. History of medical research in health care**

1. Classification of scientific knowledge in medicine.
2. What is experimental research.
3. What is theoretical research.
4. Paradigm.
5. Theory.
6. Law.

##### **2. Stages of socio-hygienic research**

1. Choice of scientific direction.
2. Applied research.
3. Applied research.
4. Definition of the goals and objectives of the study.
5. Development of the research program.
4. Evaluation of the material and preliminary analysis.
5. Statistical processing.
6. Conclusions and recommendations.
7. Registration of results of work.

**3. Qualitative and quantitative indicators** used in the scientific activities of healthcare organizers

1. Qualitative indicators. Their characteristic.
2. Quantitative data. Their characteristic
3. Use of qualitative and quantitative data to evaluate the object of study.

##### **4. Evaluation of the effectiveness of research work in health care.**

1. Scientific efficiency.
2. Economic efficiency.
3. Medical efficiency.
4. Ways to implement the results of scientific work in practice.
5. Comparative evaluation of the effectiveness of different types of research work.

### Evaluation tools for current certification

No. p / p	OS code	Name of the evaluation tool	Brief description of the evaluation tool	Presentation of the valuation tool in the fund
1	UO-1	Interview	A means of control organized as special conversation with the teacher students on topics related to the discipline being studied, and designed to clarify the amount of knowledge of the student in a particular section, topic, problem, etc.	Questions about topics disciplines
2	UO-3	report message	The product of the student's independent work, which is public speaking on presenting the results of solving a certain educational practical, educational, research or scientific topic	Topics of reports, messages
3	UO-4	Discussion	Evaluation tools to include learners in the process discussion of a controversial issue List of discussion topics and evaluate their ability to argue own point of view.	List of discussion topics
4	PR-7	Abstract	The product of the student's independent work, reflecting the main ideas of the heard lecture, messages, etc.	Topics, sections disciplines
5	PR-13	Creative task	The product of the student's independent work, reflecting the development their abilities on their own plan scientific research to formulate its goals of the task, select methods, conduct research, draw up and present results	Theme of scientific research

### Interview Questions

in Health Research Methodology

#### Section 1. Fundamentals of scientific research

1. The concept of scientific knowledge
2. Science as a branch of knowledge and its connection with issues of ethics, aesthetics, philosophy and religion

3. Pseudoscience and signs of a "great" discovery
4. Properties of knowledge
5. Issues of the knowledge economy
6. Classification of research papers
7. Choice of directions of scientific research
8. Structure of theoretical and experimental works
9. Assessment of the prospects of scientific research
10. Types and objects of intellectual property
11. Copyright (personal non-property and property rights)
12. Elements of patent law
13. Information search, design and presentation of results research work
14. Working with special literature
15. Search, accumulation and processing of scientific and medical information

16. Information retrieval methods
17. Sources of scientific and technical information
18. Search for scientific and medical literature
19. Structure of research work
20. Rules for registration of research papers

## **Section 2. Methodology of science and technology**

21. Laws and forms of thinking (thinking, concept, abstraction)
22. Laws and forms of thinking (comparison, induction and deduction, analysis and synthesis)
23. Laws and forms of thinking (generalization, analogy, hypothesis)
24. Research methodology
25. Tasks of theoretical research
26. Methodology and classification of experimental studies
27. Methods of physical measurements
28. Measuring instruments and their classification
29. Metrological characteristics of measuring instruments
30. Analysis of experimental data
31. Elements of mathematical statistics
32. Methods of correlation and regression analysis
33. Mathematical methods of experiment optimization
34. Inventive creativity
35. Methods of inventive creativity

## **Approximate topics of reports in Health Research Methodology**

1. Object and subject of scientific knowledge.
2. Scientific institutions and training of scientific personnel in Russia.
3. Mathematical modeling in scientific research.
4. Physical modeling in scientific research.
5. Strategy for the development of transport in the Russian Federation.
6. Methods of theoretical empirical research.
7. Methodological foundations of scientific knowledge.
8. Experimental research on transport.
9. Fundamentals of the theory of planning experiments.
10. Metrological support of experimental research.
11. Fundamentals of the theory of random errors and methods for estimating random measurement errors.
12. Methods of mathematical statistics.
13. Methods of forecasting in scientific research.
14. Simulation models of information systems.
15. Oratory and the rules of the dispute.
16. Business ethics and moral responsibility of scientists.
17. Commercialization of scientific research.
18. Organization and planning of scientific research.
19. Types and objects of intellectual property.
20. Methods of inventive creativity.

### **Criteria for evaluating the report, including those made in the form of presentations**

<b>Grade</b>	<b>Requirements for the formed competencies</b>
Great	The master expressed his opinion on the formulated problem, argued it, accurately defining its content and components. The data of domestic and foreign literature are given, statistical information, information of a regulatory nature. The student knows and owns the skill of independent research work on the research topic; methods and techniques for analyzing the theoretical and / or practical aspects of the area under study. There are no actual errors related to understanding the problem; graphic work is framed correctly
Fine	The work is characterized by semantic integrity, coherence and sequence of presentation; no more than 1 mistake was made when explaining the meaning or content of the problem. For argumentation, data of domestic and foreign authors are given.

	Demonstrated research skills and abilities. There are no actual errors related to understanding the problem. One or two mistakes were made in the design of the work. However, one or two inaccuracies are allowed
satisfactorily	The master conducts a fairly independent analysis of the main stages and semantic components of the problem; understands the basic foundations and theoretical justification of the chosen topic. The main sources on the topic under consideration are attracted. No more than 2 mistakes were made in the sense or content of the problem, the design of the work
Not satisfactory	The work is a retold or completely rewritten source text without any comments or analysis. The structure and theoretical component of the topic is not disclosed. Three or more than three errors were made in the semantic content of the problem being disclosed, in the design of the work