



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION
Federal state autonomous educational institution
of higher education
«Far Eastern Federal University»
(FEFU)

SCHOOL OF BIOMEDICINE

«AGREED»

Head of education program
«General medicine»



(signature) Khotimchenko Yu.S.
(Full name)
«09» of July 2019

«APPROVED»

Director of the Department of Clinical
Medicine



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«09» of July 2019



WORKING PROGRAM OF ACADEMIC DISCIPLINE (WPAD)

«Evidence-based Medicine»

Education program

Specialty 31.05.01 «General medicine»

Form of study: full time

year 3, semester 5
lectures 18 hours
practical classes 36 hours
laboratory works not provided
total amount of in-classroom works 54 hours
independent self-work 54 hours
control works ()
pass-fail exam year 3, semester 5
exam not provided

The working program is drawn up in accordance with the requirements of the Federal state educational standard of higher education (level of training), approved by the order of the Ministry of education and science of the Russian Federation from 09.02.2016 № 95.

The working program of the discipline was discussed at the meeting of the Department of fundamental and clinical medicine. Protocol No. 8, 09 of July 2019

Authors: Lozinskiy E.Yu.

ANNOTATION

The discipline "Evidence-based medicine" is designed for students enrolled in the educational program 31.05.01 "General Medicine", is included in the basic part of the curriculum, implemented in the 3rd year in the 5th semester. The total complexity of the discipline is 108 hours, 3 credits

In the development of the working program of the discipline used the Federal state educational standard of higher education in the specialty 31.05.01 "Medical care" (level of training specialty), the curriculum of training students.

The course program is based on the basic knowledge gained by students:

the willingness to solve common tasks of professional activity with the use of information and bibliographic resources, biomedical terminology, information and communication technologies, taking into account the main requirements for information security (GPC – 1)

the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)

Course purpose:

- acquisition of knowledge in planning and conducting research from the standpoint of evidence-based medicine. Acquisition of knowledge in evidence-based medicine and improvement of skills of practical work with sources of medical information.

Objectives:

- familiarization of the student with the modern aspects of evidence-based medicine, to lay a holistic view of modern clinical diagnosis, therapy, public health organization from the perspective of evidence-based medicine.

- study and development of basic methods of clinical and epidemiological analysis;

- acquisition of students' knowledge about the planning and conduct of randomized clinical trials; levels of evidence and classes of recommendations;

- formation of skills necessary to solve individual research and applied problems in the field of evidence-based medicine using knowledge of the basic requirements of information security;

As a result of the study of this discipline in students formed the following professional competence.

Requirements for the results of the discipline:

Competence and its code	Stages of competence formation	
the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows	methodology of evidence-based medicine
	Able to	use the methodology of evidence-based medicine to analyze the results of their own educational and scientific activities
	Masters	skills in applying evidence-based medicine methodology for planning a scientific experiment
the readiness to analysis and public presentation of medical information based on evidence-based medicine (PC – 20)	Knows	the concept of a public presentation of medical information on the basis of evidence-based medicine
	Able to	Explain the concept of publicly available medical information based on evidence-based medicine.
	Masters	skills in public presentation of evidence-based medical information
the ability to participate in researches (PC – 21)	Knows	Research methodology
	Able to	plan research
	Masters	Research skills

STRUCTURE AND CONTENT OF THEORETICAL PART OF THE COURSE (18 hours).

Module 1. General questions of Evidence-based Medicine

Topic 1. Evidence-based medicine, definition, necessity, 2 hours.

The purpose and objectives of the discipline. The concept of "Evidence-based Medicine". The history of the emergence and development of the discipline. The necessity and scope of evidence-based medicine. Definition, communication with clinical disciplines, the basic principles of evidence-based medicine.

Topic 2. Gold standards of Evidence Based Medicine

Placebo – control trials. Randomized researches. Double blind controlled researches. Reproducibility of results. Levels of evidence.

Topic 3. Clinical researches.

Methodology of clinical researches. Tasks of clinical trials. Costs of developing drugs. Examples of clinical researches. Helsinki Declaration. Protocols of clinical study.

Topic 4. Types of clinical trials.

Classification of clinical studies. Cohort study and a case-control study. Informed consent of a patient. Protocol of clinical research.

Topic 5. Duration of clinical studies. 2 hours.

Reasons for long duration of trials. Inclusion and exclusion criteria for patient's participation. Independent ethical committee. Three common design options.

Topic 6. Evidence based medicine and healthcare. 2 hours.

Recognition of the gap between research evidence and clinical practice. Five steps of the practice in Evidence Based Medicine. The Cochrane Collaboration's definition of a systematic review. Strengths of a systematic review. Meta-analysis as statistical technique.

Topic 7. Evidence-Based Clinical Practice. 2 hours.

Attitude of the medical community of the world to evidence-based medicine. Creation of Good Clinical Practice (GCP), as international clinical research practice in medicine. Logic of the need for evidence-based medicine. Probable and improbable medical researches.

Topic 8. Evidence Based Medicine and quality of clinical trials. 2 hours.

Evaluation of the quality of medical care. Good Clinical Practice standard, as well as the rules for the production of medicines (GMP standard) and laboratory tests (GLP standard). Standardization of traditional and new methods. Strict following international standards CLP, GCP and GSP.

Topic 9. Myths about evidence-based medicine. 2 hours.

Evidence-based medicine as an instrument for large pharmaceutical companies which helps to squeeze weaker competitors from the market. Quality education of a particular doctor. It is important to understand that any deviation

from the recommendations should be carefully justified. Interests of patients, and not the treatment of diseases as the basis of evidence-based medicine.

II. STRUCTURE AND CONTENT OF PRACTICAL COURSE

(36 hours).

Lesson1. Definition of Evidence Based Medicine (4 hours)

Practical examples of EBM in “Alcohol and life expectancy”. Clinical cases demonstrating heart diseases in alcoholics.

Lesson 2. Mechanisms of Evidence Based Medicine (4 hours)

Placebo – control trials. Randomized researches. Double blind controlled researches. Reproducibility of results. Levels of evidence. Examples of the evidence trials of arrhythmic drugs.

Lesson 3. Clinical researches (4 hours)

Methodology of clinical researches. Tasks of clinical trials. Costs of developing drugs. Examples of clinical researches. Helsinki Declaration. Protocols of clinical study. Example of aspirin clinical trials.

Lesson 4. Characteristics of various clinical studies (4 hours)

Classification of clinical studies. Cohort study and a case-control study. Informed consent of a patient. Protocol of clinical research. Example of efficacy and safety of experimental drugs: amlodipin, prestartium, AC-blocker.

Lesson 5. Duration of clinical studies (4 hours)

Reasons for long duration of trials. Inclusion and exclusion criteria for patient’s participation. Independent ethical committee. Three common design options. Example of a drug against cancer introduction into clinical practice.

Lesson 6. Evidence based medicine and healthcare (4 hours)

Recognition of the gap between research evidence and clinical practice. Five steps of the practice in Evidence Based Medicine. The Cochrane Collaboration’s definition of a systematic review. Strengths of a systematic review.

Meta-analysis as statistical technique. Examples: meta-analysis of epileptic attack treatment within EBM.

Lesson 7. Evidence-Based Clinical Practice (4 hours)

Attitude of the medical community of the world to evidence-based medicine. Creation of Good Clinical Practice (GCP), as international clinical research practice in medicine. Logic of the necessity for evidence-based medicine. Probable and improbable medical researches. Example: diuretic drug's efficacy in patients with Essential Hypertension.

Lesson 8. Evidence Based Medicine and quality of clinical trials (4 hours)

Evaluation of the quality of medical care. Good Clinical Practice standard, as well as the rules for the production of medicines (GMP standard) and laboratory tests (GLP standard). Standardization of traditional and new methods. Strict following international standards CLP, GCP and GSP. Examples: doctor's answers the patient's questions.

Lesson 9. Myths about evidence-based medicine (4 hours)

Example with Tamiflu. Evidence-based medicine as an instrument for large pharmaceutical companies which helps to squeeze weaker competitors from the market. Quality education of a particular doctor. It is important to understand that any deviation from the recommendations should be carefully justified. Interests of patients, and not the treatment of diseases as the basis of evidence-based medicine.

CONTROL OF ACHIEVEMENT OF COURSE GOALS

№ p/p	Controlled modules / sections / themes of academic discipline	Codes and stages of the formation of competencies	Evaluation tools - name		
			Current control		intermediate evaluation
1.	Module 1. General questions of Evidence-based Medicine	the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows	Interview	Test
			Is able to	Interview	Essay
			Possesses	Test	Individual task
2	Module 1. General questions of Evidence-based Medicine	the readiness to analysis and public presentation of medical information based on evidence-based medicine (PC – 20)	Knows	Interview	Test
			Is able to	Interview	Essay
			Possesses	Test	Essay

Module 1. General questions of Evidence-based Medicine	the ability to participate in researches (PC – 21)	Knows	Interview	Test
		Is able to	Interview	Essay
		Possesses	Test	Essay

Control and methodological materials, as well as criteria and indicators necessary for the assessment of knowledge, skills and characterizing the stages of formation of competencies in the process of development of the educational program are presented in Appendix 2.

СПИСОК УЧЕБНОЙ ЛИТЕРАТУРЫ И ИНФОРМАЦИОННОЕ ОБЕСПЕЧЕНИЕ ДИСЦИПЛИНЫ

Primary

1. Evidence-based Research Methods for Chinese Medicine / Springer Science+Business Media Singapore 2016
<https://link.springer.com/book/10.1007/978-981-10-2290-6#editorsandaffiliations>
2. Colonscopie en evidence-based medicine / Bohn Stafleu van Loghum 2016 <https://link.springer.com/article/10.1007/s12445-016-0216-8>
3. Evidence-Based Medicine / Springer, Cham 2016
https://link.springer.com/chapter/10.1007/978-3-319-18630-6_1

Additional

1. Evidence-Based Bunion Surgery / Springer International Publishing AG 2018 <https://link.springer.com/book/10.1007/978-3-319-60315-5#editorsandaffiliations>
2. Evidence-Based Critical Care / Springer International Publishing Switzerland 2017 <https://link.springer.com/book/10.1007/978-3-319-43341-7#editorsandaffiliations>

Internet Resources

1. Russian technology transfer network // www.rtt.ru
2. Journal of Innovation / / / Innov_W / innov.html
3. Center for research and statistics of science // www.csrs.ru
4. Economic newspaper // <http://www.neg.by>
5. Innovation Analytics and other materials / / / [lenta / innovation/](http://lenta.ru/innovation/)
6. Reference resource business support // <http://www.businessvoc.ru>
7. The center for development of innovation / <http://www.innovatika.ru>
8. Remote consulting // <http://www.dist-cons.ru>
9. Federal portal for research and innovation // <http://www.sci-innov.ru>
10. Using MS Office Power Point software
11. Using MS Office 2010 software
12. Use the videos of the website <http://www.youtube.com>
13. Legal-reference system Consultant plus.
14. Primorsky Krai of Russia:
<http://www.fegi.ru/PRIMORYE/ANIMALS/bpi.htm>
15. Scientific electronic library: <http://www.elibrary.ru>
16. Central scientific medical library: <http://www.scsml.rssi.ru>
17. Medical Internet Resources: <http://www.it2med.ru/mir.html>
18. Publishing house "Medicine": <http://www.medlit.ru>

LIST OF INFORMATION TECHNOLOGIES AND SOFTWARE

The location of the computer equipment on which the software is installed, the number of jobs	List of licensed software
Multimedia auditorium Vladivostok Russian island, Ayaks 10, building 25.1, RM. M723 Area of 80.3 m ² (Room for independent work)	Windows Seven enterprise SP3x64 Operating System Microsoft Office Professional Plus 2010 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 - a program for optical character recognition; Adobe Acrobat XI Pro 11.0.00 - software package for creating and viewing electronic publications in PDF; WinDjView 2.0.2 - a program for recognizing and viewing files with the same format DJV and DjVu.

In order to provide special conditions for the education of persons with disabilities all buildings are equipped with ramps, elevators, lifts, specialized places equipped with toilet rooms, information and navigation support signs

TRAINING AND METHODOLOGICAL SUPPORT OF INDEPENDENT WORK OF STUDENTS

The main content of the topics, the evaluation tools are presented in the WRM: terms and concepts necessary for mastering the discipline.

In the course of mastering the course “Evidence-Based Medicine”, the student will have to do a large amount of independent work, which includes preparation for seminars and writing an essay.

Practical exercises help students to deeper learn the material, to acquire the skills of creative work on documents and primary sources.

Plans for practical classes, their topics, recommended literature, the purpose and objectives of its study are communicated by the teacher at the introductory classes or in the curriculum for the discipline.

Before proceeding to the study of the topic, it is necessary to familiarize yourself with the main questions of the practical training plan and the list of recommended literature.

Starting the preparation for the practical lesson, it is necessary first of all to refer to the lecture notes, sections of textbooks and teaching aids in order to get a general idea of the place and importance of the topic in the course being studied. Then work with additional literature, make notes on the recommended sources.

In the process of studying the recommended material, it is necessary to understand the construction of the topic being studied, to highlight the main points, to follow their logic and thereby to get into the essence of the problem being studied.

It is necessary to keep records of the material being studied in the form of an outline, which, along with the visual, includes the motor memory and allows you to accumulate an individual fund of auxiliary materials for a quick repetition of what you read, to mobilize accumulated knowledge. The main forms of record: a plan (simple and detailed), extracts, theses.

In the process of preparation, it is important to compare the sources, think over the material being studied and build an algorithm of actions, carefully consider your oral presentation.

At the practical lesson, each participant should be ready to speak on all the questions posed in the plan, to be as active as possible in their consideration. The speech should be convincing and reasoned, and simple reading of the abstract is not allowed. It is important to show your own attitude to what is being said, express your personal opinion, understanding, substantiate it and draw the right conclusions from what has been said. You can refer to notes of notes and lectures, directly to primary sources, use the knowledge of monographs and publications, facts and observations of modern life, etc.

2. METHODOICAL INSTRUCTIONS FOR THE DEVELOPMENT OF DISCIPLINE

The purpose of the practical classes is to consolidate the knowledge gained by students in lectures, the modeling of practical situations, and also to test the effectiveness of students' independent work.

Practical lesson usually includes an oral survey of students on seminars. This reveals the degree of students' knowledge of the lecture course material, basic textbooks, knowledge of current problems and the current situation in the modern educational space. Further, the ability of students to apply their theoretical knowledge to the solution of a practical or task is revealed.

Preparation for the practical lesson, it is advisable to start with a repetition of material lectures. It should be borne in mind that the lecture course is limited in time and does not allow the lecturer to consider in detail all aspects of the issue

being studied. Therefore, it is required to independently expand knowledge of both theoretical and practical nature. At the same time, the lectures give a good guide for the student to search for additional materials, since they set a certain structure and logic for studying a particular question.

In the course of independent work, the student first of all needs to study the material presented in the recommended literature and / or teacher of educational literature and monographs. Students should be drawn to the fact that not only basic textbooks are included in the library list, but also more in-depth sources on each topic of the course. Sequential study of the subject allows the student to form a stable theoretical base.

An important part of the preparation for the practical lesson is the work of students with scientific and analytical articles that are published in specialized periodicals. They allow you to broaden your horizons and get an idea of current problems, possible ways to solve them and / or trends in the area under study.

As a final step in preparing for the practical lesson, the student should be encouraged to get acquainted with the results of scientific research relevant to each topic.

Lectures and practical classes are conducted on a clinical basis.

Medical Center of the Federal State Autonomous Educational Institution of Higher Education "Far Eastern Federal University".

LOGISTICS DISCIPLINE

For practical work, as well as for the organization of independent work, students have access to the following laboratory equipment and specialized classrooms that meet the current sanitary and fire regulations, as well as safety requirements during training and scientific and industrial works:

Name of the equipped rooms and rooms for independent work	List of main equipment
The computer class of the School of biomedical	Screen, electrically 236*147 cm to trim the screen; Projector DLP technology, 3000 ANSI LM, WXGA with 1280x800 resolution,

<p>AUD. M723, 15 work placts</p>	<p>2000:1 Mitsubishi EW330U; Subsystem of specialized mounting equipment course-2007 Tuarex; Subsystem of videocommunity: matrix switch DVI and DXP 44 DVI Pro advertising; extension cable DVI over twisted pair DVI 201 TX/RX advertising; Subsystem of audiocommentary and sound; speaker system for ceiling si 3ct LP Extron on from; digital audio processor DMP 44 LC the Extron; the extension for the controller control IPL T CR48; wireless LAN for students is provided with a system based on 802.11 a/b/g/N 2x2 MIMO(2SS) access points.</p> <p>Monoblock HP Loope 400 all-in-one 19.5 in (1600x900), core i3-4150t, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, and a DVD+ / -RW, GigEth, Wi-Fi and BT, the USB port of roses/MSE, Win7Pro (64-bit)+Win8.1Pro(64-bit), 1-1-1 Wty</p>
<p>Multimedia audience</p>	<p>AIO PC HP ProOne 400 G1 AiO 19.5" Intel Core i3-4130T 4GB DDR3-1600 SODIMM (1x4GB)500GB; Screen projection Projecta Elpro Electrol, 300x173 cm; Multimedia projector, Mitsubishi FD630U, 4000 ANSI Lumen 1920 x 1080; Flush interface with automatic retracting cables TLS TAM 201 Stan; Avervision CP355AF; lavalier Microphone system UHF band Sennheiser EW 122 G3 composed of a wireless microphone and receiver; Codec of videoconferencing LifeSizeExpress 220 - Codeconly - Non-AES; Network camera Multipix MP-HD718; Two 47 " LCD panels, Full HD, LG M4716CCBA; audio commutation and sound amplification Subsystem; centralized uninterruptible power supply</p>
<p>Reading rooms of the Scientific library of the University open access Fund (building a - 10)</p>	<p>Monoblock HP Loope 400 All-in-One 19.5 in (1600x900), Core i3-4150T, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, DVD+/-RW,GigEth,wifi,BT,usb kbd/mse,Win7Pro (64-bit)+Win8.1Pro(64-bit),1-1-1 Wty Speed Internet access 500 Mbps. Jobs for people with disabilities equipped with displays and Braille printers.; equipped with: portable reading devices flatbed texts, scanning and reading machines videovelocitly with adjustable color spectrums; increasing electronic loops and ultrasonic marker</p>
<p>Accreditation-simulation center of the school of Biomedicine</p>	



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**TRAINING AND METHODOLOGICAL SUPPORT OF INDEPENDENT
WORK OF STUDENTS**

On discipline « Evidence-based Medicine»
Education program
Specialty 31.05.01 «General medicine»
Form of study: full time

Vladivostok
2017

Schedule of independent work on the discipline

No.	Date / Deadline	Type of independent work	Estimated norms of time for execution (hour)	Form of control
5th semester				
1	1-3 week	Essay	18 hours	OA-3-Report
2	4-6 week	Report of presentation on the essay topic	18 hours	OA-3-Report
3	7-9 week	Preparing for the credit. Project defense	18 hours	OA-1-Interview PW-1 – Test

The list of essay topics

1. Psychology and ideology of entrepreneurship.
2. The concept and forms of innovative entrepreneurship.
3. The organizational phase of the establishment of small innovative enterprises.
4. Features of management of small innovative enterprises.
5. Innovative business and its results. Innovative product.
6. The process of innovation in a changing world.
7. System-forming processes in innovative entrepreneurship.
8. Subjects of innovative entrepreneurship.
9. The infrastructure of the market of innovations.
10. Technology transfer in innovative entrepreneurship.
11. Intellectual property as an object of innovation market.
12. Key success factors of an innovative enterprise.
13. Strategic management of innovative enterprise.
14. Management of marketing activities of innovative enterprises.
15. Financing of innovative activities of enterprises and organizations.
16. Evaluation of the efficiency of innovative enterprises.
17. Venture business.

Approximate guidelines for writing and design of an essays

Essay is a creative activity of the student reproducing in its structure the research activities to solve theoretical and applied problems in a particular branch

of scientific knowledge. That is why the course certification work is an essential component of the educational process in higher education.

The essay is a model of scientific research, independent self-work in which a student solves a problem of a theoretical or practical nature, applying the scientific principles and methods of a given 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 presentation at scientific-practical conferences, as well as in a form of research article.

Essay involves the acquisition of skills for building business cooperation, based on ethical standards of scientific activity. Purposefulness, initiative, disinterested cognitive interest, responsibility for the results of their actions, conscientiousness, competence - personality traits that characterize the subject of research activities corresponding to the ideals and norms of modern science.

The essay is an independent educational and research activity of the student. The teacher assists in a consultative manner and assesses the process and the results of the activity. Teacher provides an approximate topic of the essay work, specifies the problem and topic of research with a student or intern, helps to plan and organize research activities, assigns time and a minimum number of consultations.

The teacher receives the text of the essay for verification at least ten days before the defense.

Generally there is a certain structure of the essay, the main elements of which in order of their location are the following:

1. Title page.
2. Goal.
3. Table of Contents
4. List of abbreviations, symbols and terms (if necessary).
5. Introduction.
6. Main part.

7. Conclusion.

8. Reference list.

9. Appendixes.

The title page contains educational institution, graduating department, author, teacher or supervisor, research topic, place and year of the essay.

The title of the essay should be as short as possible and fully consistent with its content.

The table of contents (content) reflects the names of the structural parts of the essay and the pages on which they are located. The table of contents should be placed at the beginning of work on one page.

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

Thus, the introduction is a very crucial part of the essay. The introduction should start with a justification of the relevance of the chosen topic. As applied to the essay, the concept of "relevance" has one feature. From how the author of the essay can 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 preparedness.

In addition, in the introduction it is necessary to isolate the methodological basis of the essay, name the authors, whose works constituted the theoretical basis of the study. A review of the literature on the topic should show the author's thorough acquaintance with special literature, his ability to systematize sources, critically examine them, highlight the essential and determine the most important in the up-to-date state of knowledge of the topic.

The introduction reflects the importance 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 the general conclusions about the scientific and practical significance of the topic, the degree of its knowledge and sources, and the hypothesis being put forward.

The main part describes the essence of the problem, reveals the topic, determines the author's position, factual material is given as an argument and for display of further provisions. The author must demonstrate the ability to consistently present the material while analyzing it simultaneously. Preference is given to the main facts, rather than small details.

The essay ends with the final part called "conclusion". Like any conclusion, this part of the essay serves as a conclusion due to the logic of the study which is a form of synthesis accumulated in the main part of scientific information. This synthesis is a consistent, coherent presentation of the results obtained and their relation to a common goal and specific tasks set and formulated in the introduction. At this place there is a so-called "output" knowledge, which is new in relation to the original knowledge. The conclusion may include suggestions of practical matter, thereby increasing the value of theoretical materials.

So, the conclusion of the essay should contain: a) presents the conclusions of the study; b) theoretical and practical significance, novelty of the essay; c) indicated the possibility of applying the results of the study.

After conclusion it is acceptable to place the reference list of the literature used throughout. This list is one of the essential parts of the essay and reflects the independent creative work of the author of the essay.

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

Methodical recommendations for the presentation preparation

For preparation of presentation it is recommended to use: PowerPoint, MS Word, Acrobat Reader, LaTeX-bev package. The simplest program for creation of presentations is Microsoft PowerPoint. To prepare a presentation, it is necessary to process the information collected while writing the essay.

The sequence of preparation of the presentation:

1. Clearly state the purpose of the presentation.
2. Determine what the presentation format will be: live presentation (then how long it will be) or e-mail (what will be the context of the presentation).
3. Select the entire content of 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 specificity 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.

The types of visualization include illustrations, images, charts, tables. The illustration is a representation of a real-life visual. The images - as opposed to illustrations - are metaphor. Their purpose is to cause an emotion and create an attitude towards it, to influence the audience. With the help of well-designed and presented images, information can remain permanently in a person's memory. Chart is visualization of quantitative and qualitative relationships. They are used for convincing data demonstration, for spatial thinking in addition to the logical one. Table is a specific, visual and accurate data display. Its main purpose is to structure information, which sometimes facilitates the perception of data by the audience.

Practical hints on preparing a presentation

- printed text + slides + handouts are prepared separately;

- slides -visual presentation of information that should contain a minimum of text and maximum of images that bring a meaning, to look visually and simply;
- 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: the subject, surname and initials of the speaker; message plan; brief conclusions from all that has been said; list of sources used;
- handouts should be provided with the same depth and coverage as the live performance: people trust more what they can carry with them than disappear images, words and slides are forgotten, and handouts remain a constant tangible reminder; handouts are important to distribute at the end of the presentation; Handouts should be different from slides, should be more informative.

Evaluation criteria for essays.

The stated understanding of the essay as a holistic copyright text defines the criteria for its evaluation: the novelty of the text; the validity of the source choice; the degree of disclosure of the issue essence; compliance with the requirements for registration.

Essay novelty: a) the relevance of the research topic; b) novelty and independence in the problem formulation, formulation of a new aspect of the well-known problem in the establishment of new connections (interdisciplinary, intra-subject, integration); c) ability to work with research and critical literature, systematize and structure research material; d) the appearance of the author's position, independence of assessments and judgments; d) stylistic unity of the text, the unity of genre features.

The degree of disclosure of the question essence: a) the plan compliance with an essay; b) compliance with the content of topic and plan of an essay; c)

completeness and depth of knowledge on the topic; d) the validity of the methods and techniques of work with the material; e) ability to generalize, draw conclusions, compare different points of view on one issue (problem).

The validity of the source choice: a) evaluation of the used literature: whether the most famous works on the research topic are involved (including recent journal publications, recent statistics, reports, references, etc.)

Compliance with the requirements for registration: a) How true are the references to the used literature, quotes; b) assessment of literacy and presentation culture (including spelling, punctuation, stylistic culture), knowledge of terminology; c) compliance with the requirements for the volume of essay.

The reviewer should clearly state the remarks and questions, preferably with references to the work (possible on specific pages of the work), to research and evidence that the author did not take into account.

The reviewer may also indicate: whether student has addressed the topic earlier (essays, written works, creative works, olympic works, etc.) and whether there are any preliminary results; how the graduate has conducted the work (plan, intermediate stages, consultation, revision and processing of the written or lack of a clear plan, rejection of the head recommendations).

The student submits an essay for review no later than a week before the defense. The reviewer is the teacher. Experience shows that it is advisable to acquaint the student with the review a few days before the defense. Opponents are appointed by the teacher from the students. For an oral presentation a student needs about 10–20 minutes (approximately as long as he answers with tasks for the exam).

Grade 5 is given if all the requirements for writing and defending an essay are fulfilled: the problem is indicated and its relevance is justified, a brief analysis of different points of view on the problem under consideration is made and one's own position is logically presented, conclusions are formulated, the topic is fully disclosed, the volume is met, external requirements are met design, given the correct answers to additional questions.

Grade 4 is given if the basic requirements for the essay and its defense are met, but there are some shortcomings. In particular, there are inaccuracies in the presentation of the material; or there is no logical sequence in the judgments; not sufficient volume of the essay; there are omissions in the design; additional questions for the defense are accompanied with incomplete answers.

Grade 3 is given if there are significant deviations from the requirements for referencing. In particular: the topic is covered only partially; factual errors in the content of an essay or when answering additional questions; there is no output c.

Grade 2 - the topic of an essay is not disclosed, a significant misunderstanding of the problem is found.

Grade 1 - student's essay is not presented.

The organization of independent work of students involves a number of individual homework (IHW) on a given topic.

IHW is one of the forms of educational and scientific work of students. The purpose of the IHW is to teach students to connect theory with practice, to instill the ability to develop researching plans, to calculate various indicators and build forecasts on the basis of their analysis, to investigate the current situation and offer solutions to problems, to freely navigate in the modern economy, to present complex issues in a popular way.

The work is provided in paper form and is defended by the student. In the end, a pass grade is to be given.

The presentation of the material must meet the requirements for research work. The research should be based on authoritative sources, text is qualitatively worked out and edited (clarity, perceptibility, clarity, scientific style). The completeness of the material is taken into account. Registration of the executed IHM is made according to the standard of performance of course and final qualifying works of FEFU. The volume of tasks, etc is about 20-25 pages.

IHM No. 1.

To carry out research work on the theme "national innovation system of the state". The country of study is chosen at random by the student from the proposed list or in agreement with the teacher. The paper should consider the formation of NIS, the structure of NIS, the role of the state in the process of formation of NIS, the existing problems and opportunities to solve them.

List of countries: USA, UK, Sweden, Canada, Japan, Israel, India, China, France, South Korea, Hong Kong, Singapore, Germany.

IHM No. 2.

To carry out research work on the topic "Characteristics of the infrastructure of scientific, technical and innovative activities in Russia: *element*". The element of infrastructure for the study is chosen arbitrarily by the student from the proposed list or in agreement with the teacher.

Contents of infrastructure elements: information support; system of coordination and regulation; financial and economic support; system of production and technological support and certification of high-tech products; system of promotion of scientific and medical developments and high-tech products; system of training and retraining.



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

Federal state autonomous educational institution

of higher education

« **Far Eastern Federal University** »

(FEFU)

SCHOOL OF BIOMEDICINE

ASSESSMENT FUND

on discipline « Evidence-based Medicine»

Education program

Specialty 31.05.01 «General medicine»

Form of study: full time

Vladivostok

2017

Passport of assessment fund

Completed in accordance with the Regulations on the Funds of Evaluation Assets of Educational Programs of Higher Education - Bachelor's Programs, Specialties, FEFU Magistrates, approved by order of the Rector No. 12-13-850 of May 12, 2015.

Competence and its code	Stages of competence formation	
the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows	methodology of evidence-based medicine
	Able to	use the methodology of evidence-based medicine to analyze the results of their own educational and scientific activities
	Masters	skills in applying evidence-based medicine methodology for planning a scientific experiment
the readiness to analysis and public presentation of medical information based on evidence-based medicine (PC – 20)	Knows	the concept of a public presentation of medical information on the basis of evidence-based medicine
	Able to	Explain the concept of publicly available medical information based on evidence-based medicine.
	Masters	skills in public presentation of evidence-based medical information
the ability to participate in researches (PC – 21)	Knows	Research methodology
	Able to	plan research
	Masters	Research skills

CONTROL OF ACHIEVEMENT OF COURSE GOALS

№ p/p	Controlled modules / sections / themes of academic discipline	Codes and stages of the formation of competencies	Evaluation tools - name		
			Current control		intermediate evaluation
1.	Module 1. General questions of Evidence-based Medicine	the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	Knows	Interview	Test
			Is able to	Interview	Essay
			Possesses	Test	Individual task
2	Module 1. General questions of Evidence-based Medicine	the readiness to analysis and public presentation of medical information based on evidence-based medicine (PC – 20)	Knows	Interview	Test
			Is able to	Interview	Essay
			Possesses	Test	Essay
	Module 1. General questions of Evidence-based Medicine	the ability to participate in researches (PC – 21)	Knows	Interview	Test
			Is able to	Interview	Essay
			Possesses	Test	Essay

Scale of assessment of the level of competence formation

Competence and its code	Stages of competence formation		criteria	indicators	Points
the ability and willingness to analyze the results of his own activity to prevent professional errors (GPC-5)	knows (threshold level)	methodology of evidence-based medicine	Knowledge of methodology of evidence-based medicine	knows the main ways of analysis, finding the problem, designing the optimal sequence of actions to achieve the intended goal in the field of evidence-based medicine	65-71
	able to (advances)	use the methodology of evidence-based medicine to analyze the results of their own educational and scientific activities	The ability to use the methodology of evidence-based medicine to analyze the results of their own educational and scientific activities	Able to use the methodology of evidence-based medicine to analyze the results of their own educational and scientific activities	71-84
	masters (high)	skills in applying evidence-based medicine methodology for planning a scientific experiment	Possession of skills of analytical methods, generalization and public presentation of the results of scientific research. In field of evidence –based medicine	knows how to apply professional knowledge in the field of research in the formulation and solution of problems on evidence-based medicine	85-100
the readiness to analysis and public presentation of medical information based on evidence-based medicine (PC – 20)	knows (threshold level)	the concept of a public presentation of medical information on the basis of evidence-based medicine	Knowledge of methods of processing, analysis, generalization and public presentation of the results on the basis of evidence-based medicine	Knows the basics of methods of processing, analysis, generalization and public presentation of the results on the basis of evidence-based medicine	65-71
	able to (advances)	Explain the concept of publicly available medical information based on evidence-based medicine.	Ability to analyze, summarize and publicly present the results of scientific research on the basis of evidence-based medicine	able to analyze, summarize and publicly present the results of scientific research on the basis of evidence-based medicine	71-84
	masters (high)	skills in public presentation of evidence-based medical information	Possession of skills of analytical methods, generalization and public presentation of the results on the basis of evidence-based medicine	Knows how to apply professional knowledge in the field of research in the formulation and solution of problems on evidence-based medicine	85-100

the ability to participate in researches (PC – 21)	knows (threshold level)	Research methodology	Knowledge of methods of analysis and evaluation of modern scientific achievements in solving scientific research on the basis of evidence-based medicine	Knows the basics of methods of analysis and evaluation of modern scientific achievements in solving scientific research on the basis of evidence-based medicine	65-71
	able to (advances)	plan research	ability to analyze, generalize alternative solutions to research and practical problems, to evaluate potential gains/losses of these option on the basis of evidence-based medicine	Able to analyze alternative solutions to research and practical problems in the conduct of scientific research on the basis of evidence-based medicine	71-84
	masters (high)	Research skills	Possession of skills of methods of analysis and evaluation of modern scientific achievements and results of scientific research, effective teamwork skills on the basis of evidence-based medicine	knows the methods of analysis and evaluation of modern scientific achievements and results of scientific research on the basis of evidence-based medicine.	85-100

Methodical recommendations determining the procedures for evaluating the results of mastering the discipline

Assessment of knowledge in the discipline "Evidence-based medicine" on the exam involves a differentiated approach to the student, taking into account his individual abilities, the degree of mastering and systematization of the basic conceptual apparatus, knowledge of the course, the ability to draw evidential conclusions and generalizations, the formation of general cultural and professional competencies.

Not only is the depth of understanding the main problems of the academic discipline assessed, but also the ability to use in the answer practical material from today's reality, related primarily to the student's professional training.

“Excellent” - the answers are evaluated, the content of which is based on a deep comprehensive knowledge of the subject, the main and additional literature, is presented logically, reasonably and in full. The basic concepts, conclusions and generalizations are formulated convincingly and conclusively. The student

skillfully and correctly applies knowledge to the analysis of social processes and solving problems of professional activity.

“Good” - answers based on a solid knowledge of the subject, the main literature, with minor gaps in the knowledge of additional literature are evaluated. There may be shortcomings in the systematization or synthesis of the material, inaccuracies in the conclusions. The student is firmly aware of the main categories of academic discipline and skillfully uses them to assess the problems of evidence-based medicine and solve problems of professional activity.

“Satisfactory” - answers are evaluated that are based on knowledge of the basics of the subject, but there are significant gaps in the assimilation of the material, difficulties in its presentation and systematization, the conclusions are poorly reasoned, the content of theoretical errors.

“Unsatisfactory” - the answers are evaluated, which reveal ignorance of the main problems and categories of the subject according to the curriculum, the content of the basic material is not understood, there are no generalizations and conclusions. The student cannot or refuses to answer the questions posed.

General assessment criteria:

1. Attendance at lectures and workshops.
2. Active participation in discussions
3. Timely and high-quality performance of independent work
4. High-quality performance of written works and presentations.
5. Final assessment (by educational unit)

Control tests are designed for students studying the course "Evidence-Based Medicine".

Tests are necessary both for the control of knowledge in the process of the current intermediate certification, and for the assessment of knowledge, the result of which can be the setting of credit.

When working with tests, the student is invited to choose one answer from three to four proposed. At the same time, tests are unequal in complexity. Among the

proposed there are tests that contain several options for correct answers. The student must specify all the correct answers.

Tests are designed for both individual and collective decision. They can be used in the process and classroom, and independent work. The selection of tests necessary for the control of knowledge in the process of intermediate certification is carried out by each teacher individually.

The results of the test tasks are assessed by the teacher on a five-point scale for issuing attestation or on the "test" system - "no test". The mark "excellent" is set with the correct answer to more than 90% of the tests proposed by the teacher. A rating of "good" - with the correct answer to more than 70% of tests. A rating of "satisfactory" - with the correct answer to 50% of the tests proposed by the student.

Examples of test items.

Choose one or more correct answers.

1. The term "Evidence-Based Medicine" (evidence-based medicine) was first proposed:

- A) American general practitioners
- B) Canadian scientists from McMaster University
- B) English scientists from the Royal College of Family Physicians
- D) The term is proposed in English-language literature by many authors at once.
- D) the term has ancient Greek roots.

2. Give the most rational definition of evidence-based medicine (DM):

- A) effective, safe and economical treatment based on the most reliable evidence available
- B) a set of evolving principles, strategies and tactics in the treatment
- C) a new science in clinical medicine, which differs from the former by the lesser influence of the subjective factor on the choice of diagnostic and therapy criteria

D) conscientious, accurate and meaningful use of the results of the most evidence-based existing clinical studies to select treatment methods for specific patients.

D) a new method of choosing the best options for medical practice.

3. "The gold standard of DM is called:

A) cohort study

B) case control

C) a description of a series of cases

D) retrospective study

E) randomized controlled trials.

4. What is randomization?

A) the procedure for the random distribution of participants into 2 groups - the intervention group and the control group

B) computer statistical processing of the results obtained in the study

C) one of the methods of design research

critical analysis and systematic review of the literature on a specific topic

D) research method in clinical epidemiology.

5. What is the name of the study, in which participants are randomly divided into 2 groups of intervention and control?

A). cohort study

B) case control

C) a description of a series of cases

D) retrospective study

E) randomized controlled trials;

6. How many stages include the process of making clinical decisions in DM?

A) 3

B) 4

AT 5

D) 6

D) depends on the type of study.

7. The first stage of the clinical decision making process in DM:

- A) question wording
- B) search and identify the best available data to answer this question.
- C) critical evaluation of selected data
- D) the introduction of the results of this assessment in clinical practice.
- D) evaluation of the results of the work done.

8. The second stage of the clinical decision making process in DM:

- A) question wording
- B) search and identify the best available data to answer this question.
- C) critical evaluation of selected data
- D) The introduction of the results of this assessment in clinical practice.
- D) Evaluation of the results of the work done.

9. The third stage of the clinical decision making process in DM:

- A) Question wording
- B) Search and identify the best available data to answer this question.
- C) Critical evaluation of selected data
- D) The introduction of the results of this assessment in clinical practice.
- D) Evaluation of the results of the work done.

10. The fourth stage of the clinical decision making process in DM:

- A. formulation of the question
- B. the search and identification of the best evidence to answer this question;
- V. critical evaluation of selected data
- G. implementation of the results of this assessment in clinical practice
- D. evaluation of the results of the work done.

11. The fifth stage of the clinical decision making process in DM:

- A. question wording
- B. Search and identify the best evidence available to answer this question.
- B. Critical Evaluation of Selected Data
- G. implementation of the results of this assessment in clinical practice
- D. evaluation of the results of the work done.

Questions for assessing prior competencies

1. The system of public health in Russia. Basic principles of public health.
 2. Medical activities. Professional duties. The rights. The benefits of medical professionals.
 3. Ethical problems of modern medicine and health.
 4. Medical secret. Attitude to medical confidentiality in various countries.
 5. Professional mistakes. Doctor's responsibilities
-
12. What does grade A mean - in the hierarchy of degrees of evidence of research?
 - A. High degree (well-designed randomized controlled trials with placebo)
 - B. satisfactory degree (limited number of observations, meta-analysis data)
 - V. weak degree (non-randomized studies, separate observations)
 - D. There is no direct evidence (agreed group statement, expert opinion)
 - D. proved the harmfulness of the intervention.
 13. What does degree B mean in the hierarchy of degrees of evidence for research?
 - A. high degree (well-designed randomized controlled trials with placebo)
 - B. satisfactory degree (limited number of observations, meta-analysis data)
 - V. weak degree (non-randomized studies, separate observations)
 - D. There is no direct evidence (agreed group statement, expert opinion)
 - D. proved the harmfulness of the intervention.
 14. What does degree C mean in the hierarchy of degrees of evidence for research?
 - A. High degree (well-designed randomized controlled trials with placebo)
 - B. satisfactory degree (limited number of observations, meta-analysis data)
 - V. weak degree (non-randomized studies, separate observations)
 - D. There is no direct evidence (agreed group statement, expert opinion)
 - D. proved the harmfulness of the intervention.
 15. What does degree D mean in the hierarchy of degrees of evidence for research?
 - A. high degree (well-designed randomized controlled trials with placebo);
 - B. satisfactory degree (limited number of observations, meta-analysis data);
 - B. weak degree (non-randomized studies, separate observations);
 - G. There is no direct evidence (agreed group statement, expert opinion);

D. proved the harmfulness of the intervention.

16. What is research design?

A. method of conducting research

B. Description of research results

V. analysis of the study by independent experts

G. publication of research results;

D. determine the time of the study.

17. Clinical studies in DM are divided into:

A. external and internal

B. prospective and retrospective

V. clinical and nonclinical

G. soft and hard

D. uniform or simultaneous

18. What is a case-control study?

A. A retrospective study that studies the relationship between clinical outcomes (usually unfavorable) and the effects of certain factors (usually risk factors).

B. A prospective study that studies the relationship between the effects of certain factors (usually risk factors) and clinical outcomes (usually unfavorable)

B. study, in which participants are randomly divided into 2 groups - the intervention group and the control group

G. study, which analyzes the series of similar cases

D. study, which control the random, side effect of the drug.

19. What provides randomization in clinical trials?

A. Significant statistical difference of 2 groups - intervention and control

B. no differences between 2 groups - intervention and control

B. equal number of patients in 2 groups - interventions and controls

G. equal number of men and women in the intervention and control groups

D. limiting the actions of external factors.

20. What is a cohort study?

A. A retrospective study that studies the relationship between clinical outcomes (usually unfavorable) and the effects of certain factors (usually risk factors)

B. A prospective study that studies the relationship between the effects of certain factors (usually risk factors) and clinical outcomes (usually unfavorable)

B. study, in which participants are randomly divided into 2 groups - the intervention group and the control group

G. study, which analyzes the series of similar cases

D. study, which control the random, side effect of the drug.

21. What is a randomized double-blind study?

A. An investigation comparing two types of treatment that are carried out in different ways (for example, different routes of administration for the same medicine)

B. a study in which neither the doctor nor the patient knows which medicine the patient is receiving

B. an investigation in which neither the patient nor his relatives know what kind of medicine the patient is receiving

G. An investigation in which neither the patient nor the nurse who gives the medicine does not know which medicine the patient is receiving

D. study, the results of which are closed to external experts.