Ministry of Science and Higher Education of the Russian Federation
Federal State Autonomous Institution of Higher Education
“National Research Nuclear University “MEPhI”

INSTITUTE OF ENGINEERING PHYSICS FOR BIOMEDICINE

APPROVED НТС ИФИБ

Protocol No. 3.1

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ACADEMIC COURSE OUTLINE

ОБЩЕСТВЕННОЕ ЗДОРОВЬЕ И ЗДРАВООХРАНЕНИЕ / PUBLIC HEALTH AND HEALTH CARE

Educational program track (speciality) [1] 31.05.01 General Medicine

Semester	**Labour input, credits**	**Total course academic, hours**	**Lectures, hrs.**	**Practical sessions, hrs.**	**Laboratory sessions, hrs.**	**In the form of practical studies, hrs.**	**Independent studies, hrs.**	**Independent studies monitoring, hrs.**	**Course progress, Exam/Pass-fail exam/Term**
12	5	180	26	60	0		40	0	Ex
Total	5	180	26	60	0	0	40	0	

ABSTRACT

The course curriculum is designed based on the requirements for completion of the specialist degree program. Specifically, graduates (medical practitioners) must be prepared to address professional challenges related to organizing medical care, collecting and conducting medical and statistical analysis of public health information, organizing and conducting medical examinations, assessing the quality of medical care, preparing documentation in the healthcare system, organizing and implementing preventive and anti-epidemic measures, and promoting public health.

1. ACADEMIC COURSE GOALS AND OBJECTIVES

The purpose of studying this discipline is to develop competencies in the fundamentals of public health and healthcare organization, the application of principles and methods of healthcare management in the practical activities of a physician, adhering to standards and taking into account the requirements of the modern healthcare system to ensure high-quality medical care for the population.

Objectives:

- Develop knowledge, skills, and abilities in medical and statistical analysis when studying health indicators for various age, gender, social, professional, and other population groups;
- Develop systemic knowledge of the factors determining population health, the role of lifestyle in shaping population health indicators, and systems for maintaining, strengthening, and restoring population health;
- Study the theoretical foundations of healthcare organization, the specifics of organizing medical care for adults and children, industrial workers, and rural residents;
- Train students in the principles of organizing the work of medical personnel in outpatient and inpatient medical institutions;
- Develop competencies in maintaining medical records and conducting medical and statistical analysis of medical institution performance indicators;
- Develop competencies in organizing examinations of temporary and permanent disability;
- Develop competencies in the management, legal, and organizational processes carried out in medical institutions;
- Study issues of healthcare economics and the activities of medical institutions of various types of ownership; - assessing the quality of medical care provided to the population;
- developing students' skills in studying scientific literature and official statistical reviews.

2. PLACE OF THE ACADEMIC COURSE IN THE MAIN HIGHER EDUCATION CURRICULUM

This course builds on knowledge gained in previous fundamental and clinical disciplines and ensures continuity and integration of its teaching with clinical and hygiene disciplines. The competencies acquired during this course prepare students to successfully fulfill their professional responsibilities.

3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional competencies:

Competency code and title	Code and title of competency-based rubrics
ОПК-2 [1] – Capable of conducting and monitoring the effectiveness of measures for prevention, healthy lifestyle promotion, and sanitary-hygienic education of the population	З-ОПК-2 [1] – Know: - regulatory foundations for conducting preventive medical examinations and health check-ups; - rules for implementing sanitary and anti-epidemic measures; - forms and methods of health education work; - sanitary rules and regulations; - national immunization schedule; - main hazardous and harmful occupational factors. У-ОПК-2 [1] – Be able to: - determine medical indications for imposing restrictive measures (quarantine) and conduct anti-epidemic measures in case of an infection outbreak; - conduct preventive medical examinations and health check-ups in accordance with current regulatory legal acts and other documents; - monitor the effectiveness of measures for disease prevention, health promotion, and sanitary-hygienic education of the population; - develop and implement health promotion programs aimed at eliminating harmful effects of environmental factors on human health; - establish cause-effect relationships between changes in health status and exposure to environmental factors. В-ОПК-2 [1] – Possess skills in: - organizing and conducting preventive medical examinations and health check-ups for the adult population to prevent the occurrence and/or spread of diseases and identify risk factors; - preparation (formation) and sending to the territorial office of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing an emergency notification upon detection of an infectious or occupational disease; -educating patients and their relatives on methods of self-monitoring key physiological indicators.
ОПК-8 [1] – Capable of implementing and monitoring the effectiveness of medical rehabilitation of patients, including during the implementation of individual rehabilitation and habilitation programs for persons with disabilities, and to assess patients' capacity for work.	З-ОПК-8 [1] – Know: - signs of temporary disability and persistent disorders of body functions leading to limitations in life activities; - procedures for conducting temporary disability examinations; - procedures for referring patients for medical and social expertise; - the concept of "Individual Rehabilitation and Habilitation Program for Persons with Disabilities"; - medical indications and contraindications for prescribing spa treatment; - medical indications and contraindications for conducting medical rehabilitation measures, considering the diagnosis, clinical guidelines, procedures, and standards of medical care. У-ОПК-8 [1] – Be able to: - determine the need for applying natural therapeutic factors, pharmacological and non-pharmacological therapies, and other methods for patients requiring medical rehabilitation and spa treatment; - monitor the effectiveness of medical rehabilitation for patients, including during the implementation of individual rehabilitation and habilitation programs for persons with disabilities; - assess patients' capacity for work; - perform medical rehabilitation measures for patients in accordance with current medical care procedures, clinical guidelines, and medical care standards.

	В-ОПК-8 [1] – Possess skills in: - identifying signs of temporary disability and persistent disorders of body functions leading to limitations in life activities; - referring patients in need of medical rehabilitation to specialist physicians for the implementation of individual rehabilitation program measures, including spa treatment; - completing sick note, referrals for medical and social expertise, and sanatorium treatment cards.
ОПК-9 [1] – Capable of implementing quality management principles in professional activities.	З-ОПК-9 [1] – Know: - principles of quality management; The concept of quality of medical care; - procedure for providing medical care to the adult population in the "Therapy" specialty; - procedure for prescribing medications. У-ОПК-9 [1] – Be able to: - analyze the results of one's own professional activities to prevent errors; - apply medical care standards and clinical guidelines (treatment protocols) in practical work; - evaluate the correctness of chosen methods of prevention, diagnosis, treatment, and rehabilitation when providing medical care to a specific patient; - assess the degree of achievement of the planned treatment outcome. В-ОПК-9 [1] – Possess skills in: - making medical decisions based on evidence-based medicine (selection of diagnostic, treatment, prevention, and rehabilitation methods), including using electronic knowledge bases; - applying the procedure for prescribing medications; - participating in the assessment of the quality of medical care provided.
ОПК-11 [1] – Capable of preparing and applying scientific, research-production, project-related, organizational-managerial, and regulatory documentation within the healthcare system.	З-ОПК-11 [1] – Know: - the purpose of various types of documentation in medicine and healthcare; У-ОПК-11 [1] – Be able to: - search for and select scientific, project-related, organizational-managerial, and regulatory documentation in accordance with assigned tasks in professional activities; - analyze and apply scientific, project-related, organizational-managerial, and regulatory documentation to solve professional tasks; В-ОПК-11 [1] – Possess skills in: - preparing work plans and activity reports according to specified formats; - drafting organizational-administrative documents and preparing proposals for amendments to regulatory legal documents in the field of healthcare and medical sciences, as well as local regulatory acts of healthcare organizations

Professional competencies in compliance with the goals and professional knowledge areas:

Professional activity goal	**Professional activity knowledge area**	**Professional competency code and title; Based on the professional standard, experience analysis**	**Code and title of competency-based rubrics**
organizational and managerial			
Collection of medical data, medical and	Individuals (patients); the population; the set	ПК-3.4 [1] - Able to analyze population	З-ПК-3.4[1] - Know: - factors shaping human

statistical analysis of information on the population health indicators for various age and sex groups.	of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	health indicators *The base:* Professional standard: 02.022	health; - main medical-statistical indicators characterizing population health, methods for their calculation; - methodologies for collecting medical-statistical information.; У-ПК-3.4[1] - Be able to: - analyze statistical indicators of morbidity with temporary disability, disability, mortality.; В-ПК-3.4[1] - Possess skills in: - analyzing official statistical reporting, including federal and industry statistical observation forms.
Preparation and application of documentation within the healthcare system, maintenance of medical records in healthcare organizations.	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	ПК-3.5 [1] - Able to maintain medical documentation and organize the work of subordinate nursing staff *The base:* Professional standard: 02.009	З-ПК-3.5[1] - Know: - rules for completing medical documentation including in medical information systems; - basic principles of organization and management in healthcare, in medical organizations and their structural units.; У-ПК-3.5[1] - Be able to: - apply knowledge of organization and management in healthcare, in medical organizations and their structural units; - organize the work of subordinate junior and nursing staff.; В-ПК-3.5[1] - Possess skills in: - completing patient medical records and other medical documentation including electronically in medical information systems; - monitoring performance of duties

			by district nurses and other subordinate healthcare workers.

4. PEDAGOGIC POTENTIAL OF THE COURSE

Pedagogic tracks/objectives	Pedagogic goals (code)
Professional education	Establishing conditions for: formation of responsibility for professional choice, professional development and professional decisions (B18)
Professional education	Establishing conditions for: formation of motivation to improve the quality of medical care to the population and the desire to follow the rules and norms of interaction between the doctor, colleagues and the patient, contributing to the creation of the most favorable environment for the patient's recovery (B34)

5. ACADEMIC COURSE STRUCTURE AND CONTENT

Academic course sections, their scope, terms of study and assessment:

No.	Academic course section name	Weeks	Lectures/ Practical (seminars)/ Laboratory sessions, hrs.	Compulsory current assessment (form*, week)	Maximum grade per section**	Section assessment (form*, week)	Competency-based rubrics
	12 Semester						
1	The First section	1-8	14/30/0	T-8 (25)	25	T-8	З-ОПК-2, У-ОПК-2, З-ОПК-8, У-ОПК-8, З-ОПК-9, У-ОПК-9, З-ОПК-11, У-ОПК-11
2	The Second section	9-15	12/30/0	T-15 (25)	25	T-15	З-ОПК-2, В-ОПК-2, З-ОПК-8, В-ОПК-8, З-ОПК-9, В-ОПК-9, З-ОПК-11, В-ОПК-11
	Totals for 12 Semester		26/60/0		50		
	Assessment events for 12 Semester				50	Ex	З-ОПК-2, У-ОПК-2, В-ОПК-2,

							З-ОПК-8, У-ОПК-9, В-ОПК-9, З-ОПК-11, У-ОПК-11, В-ОПК-11, З-ПК-3.4, У-ПК-3.4, В-ПК-3.4, З-ПК-3.5, У-ПК-3.5, В-ПК-3.5, У-ОПК-8, В-ОПК-8, З-ОПК-9

* – abbreviated name of assessment

** – 100 maximum points per semester including a pass/fail exam and (or) an exam

Abbreviated current assessment forms and section assessment

Abbreviation	**Full name**
T	Testing
Ex	Exam

SYLLABUS

Weeks	**Topics / Content**	**Lect., hrs.**	**Pr./sem., hrs.**	**Lab., hrs.**
	12 Semester	26	60	0
1-8	**The First section**	14	30	0
1 - 3	**Theoretical foundations of public health and healthcare. Biostatistics, stages of statistical research** Methodology for studying public health and healthcare system performance. Organization of medical and social research and methods of statistical analysis (absolute and relative values, average values, standardized coefficients, t-test, time series, correlation).	All		
		6	15	0
		Online		
		0	0	0
4 - 5	**Medical demography and its importance for healthcare. Contemporary demographic issues** Medical and social aspects of demography. Methods for studying demographic processes. Static and dynamic indicators. Mechanical population movement. Natural population movement (birth rate, mortality, natural increase, life expectancy). Methods for calculating and analyzing medical and demographic indicators.	All		
		4	7	0
		Online		
		0	0	0
6 - 8	**Population health and its study methods. Major diseases as a medical and social problem** Approaches to studying individual and public health. Medical and social problems associated with the physical development of the population. Population morbidity. Morbidity patterns in	All		
		4	8	0
		Online		
		0	0	0

	specific population groups. ICD-10. The role of lifestyle in maintaining public health. Social and preventive approaches to public health protection. Methods for calculating and analyzing indicators of population physical health and morbidity.			
9-15	**The Second section**	12	30	0
9 - 11	**Fundamentals of organizing outpatient and inpatient care for children and adults** Principles, forms, and systems of healthcare. Organization of outpatient and polyclinic care. Organization of inpatient care. Organization of specialized medical care. Organization of emergency and urgent medical care. Features of the organization of medical care for rural residents. Organization of spa and resort care. Clinical examination of the population. Methodology for calculating and analyzing the performance indicators of medical institutions	All		
		6	12	0
		Online		
		0	0	0
12 - 13	**Assessment of working capacity in healthcare** Temporary disability assessment. Procedure for issuing documents certifying temporary disability. Permanent disability assessment. Disability. Methodology for calculating and analyzing disability indicators.	All		
		4	10	0
		Online		
		0	0	0
14 - 15	**Healthcare Economics** Health insurance. Healthcare economics. Healthcare financing. Quality of medical care and its provision. Methodology for calculating and analyzing the economic performance of healthcare institutions.	All		
		2	8	0
		Online		
		0	0	0

Abbreviated names of online options:

Abbreviation	**Full name**
EC	E-course
FtM	Full-text material
FtL	Full-text lectures
VM	Video materials
AM	Audio materials
Prs	Presentations
T	Tests
ERM	E-reference materials
IS	Interactive site

PRACTICAL SESSIONS TOPICS

Weeks	**Topics / Content**
	12 Semester
1 - 3	**Theoretical foundations of public health and healthcare. Biostatistics, stages of statistical research.** 1. Fundamentals of medical statistics and the organization of statistical research. 2. Absolute and relative statistical indicators. Methods of graphical representation in statistics. 3. Average values and criteria for the diversity of variation series. 4. Assessing the reliability of medical and social research results. 5. Nonparametric methods for assessing the reliability of statistical research results. The

	goodness-of-fit test (chi-square). 6. Measuring the relationship between phenomena. Methods for studying correlations in assessing health indicators and environmental factors. 7. Dynamic series and their analysis. 8. Using the standardization method in assessing population health and healthcare performance.
4 - 5	**Medical demography and its importance for public health. Contemporary demographic issues.** 1. Demography and its medical and social aspects. 2. Calculation and analysis of demographic indicators of public health.
6 - 8	**Population health and its study methods. Major diseases as a medical and social problem.** 1. Physical health as a criterion for public health. 2. Population morbidity. Methodology for calculating and analyzing morbidity indicators. 3. Improving population health. Health-saving technologies. 4. Organization and provision of pharmaceutical care to the population. 5. Participation of public organizations in protecting public health.
9 - 10	**Fundamentals of Outpatient and Inpatient Care for Children and Adults** 1. Principles, Forms, and Systems of Healthcare 2. Healthcare in Foreign Countries 3. Outpatient Care for Urban Populations. Medical Screening 4. Inpatient Care for Urban Populations 5. Medical Care for Rural Populations. Emergency and Urgent Care. 6. Maternal and Child Health System. Medical Care for Women and Children 7. Rehabilitation and Spa Treatment.
11 - 12	**Capacity Assessment in Healthcare** 1. Temporary Disability Assessment. 2. Permanent Disability Assessment. 3. Legal Framework for Protecting Citizens' Health.
13 - 15	**Healthcare Economics** 1. Fundamentals of Management and Economics in Healthcare. 2. Healthcare Financing. Health Insurance. 3. Quality Control in Healthcare. 4. Informatization in Healthcare.

6. EDUCATIONAL TECHNOLOGIES

The implementation of competency-oriented educational programs involves the use of various educational procedures in the educational process (lectures, practical classes, business games, the use of video conference materials, testing, solving situational problems, self-study):

a) Structural and logical:

- lectures on the main topics of the course. Lectures develop students' knowledge of the main sections of the course. Lectures are delivered using modern computer technologies.

- practical classes, including discussion of the most significant points of the lecture course, solving problems illustrating the practical application of the material covered, and completing test assignments.

b) Training: completing test assignments, situational problems, and individual work as part of students' independent work.

c) Game-based: modeling specific situations during practical classes, conducting business games.

d) Dialogue-based: organizing discussions and discussing controversial issues during lectures and practical classes.

d) Use of a scoring system.

The educational process utilizes:

- conference video footage;
- knowledge assessment tests using tests of various levels;
- solving situational problems and assignments on the main sections of the course using video footage and slides;
- business games to stimulate independent and creative student activity.

During the game, the topic can be easily explored and the student's level of preparation assessed. The assessment takes into account the correct completion of the task, the timeliness of the response, and the student's level of knowledge.

7. ASSESSMENT TOOLKIT

The assessment toolkit ensures verification of the intended learning outcomes achievement (competency-based rubrics) using current, midterm and interim assessment of the course.

The link between developed competencies and their assessment is presented in the following table:

Competency	**Achievement rubrics**	**Assessment activity (Syl 1)**
ОПК-11	З-ОПК-11	Ex, T-8, T-15, T-8, T-15
	У-ОПК-11	Ex, T-8, T-8, T-15
	В-ОПК-11	Ex, T-15, T-8, T-15
ОПК-2	З-ОПК-2	Ex, T-8, T-15, T-8, T-15
	У-ОПК-2	Ex, T-8, T-8, T-15
	В-ОПК-2	Ex, T-15, T-8, T-15
ОПК-8	З-ОПК-8	Ex, T-8, T-15, T-8, T-15
	У-ОПК-8	Ex, T-8, T-8, T-15
	В-ОПК-8	Ex, T-15, T-8, T-15
ОПК-9	З-ОПК-9	Ex, T-8, T-15, T-8, T-15
	У-ОПК-9	Ex, T-8, T-8, T-15
	В-ОПК-9	Ex, T-15, T-8, T-15
ПК-3.4	З-ПК-3.4	Ex
	У-ПК-3.4	Ex
	В-ПК-3.4	Ex
ПК-3.5	З-ПК-3.5	Ex
	У-ПК-3.5	Ex
	В-ПК-3.5	Ex

Educational achievement rubrics scales

The scale of each assessment activity varies from 0 to the maximum established point, inclusive. The final assessment of the course is performed on a 100-point scale and represents the sum

of the points earned by the student in the section assessments, framework of current and interim assessment.

Sections and interim assessments are considered passed when the student achieves a minimum score equal to 60% of the maximum. The final grade is assigned only upon passing all sections and the interim assessment.

The final grade is assigned in accordance with the following scale:

<table>
<tr><th>Total score</th><th>Rating on a 4-point scale</th><th>Pass/fail examination</th><th>ECTS assessment</th></tr>
<tr><td>90-100</td><td>5 – «excellent»</td><td rowspan="7">«pass»</td><td>A</td></tr>
<tr><td>85-89</td><td rowspan="3">4 – «good»</td><td>B</td></tr>
<tr><td>75-84</td><td>C</td></tr>
<tr><td>70-74</td><td rowspan="2">D</td></tr>
<tr><td>65-69</td><td rowspan="2">3 – «satisfactory»</td></tr>
<tr><td>60-64</td><td>E</td></tr>
<tr><td>below 60</td><td>2 – «fail»</td><td>«fail»</td><td>F</td></tr>
</table>

An “excellent” grade indicates a deep and solid mastery of the program material by a student who presents their answers consistently, clearly, and logically, is able to closely link theory with practice, and uses materials from monographic literature in their answers.

A “good” grade corresponds to a student’s solid knowledge of the material, who presents their answers competently and to the point, without any significant inaccuracies.

A “satisfactory” grade corresponds to the basic level of mastery of the material by the student, in which the main material has been mastered, but its details have not been assimilated, the answers contain inaccuracies, insufficiently correct wording and logical inconsistencies.

A grade “pass” corresponds to at least a basic level of mastery of the program material, in which the student possesses the necessary knowledge, skills, and abilities, and is able to apply theoretical principles to solve typical practical problems.

A grade “fail” is given to a student who lacks a significant understanding of the curriculum material, makes significant errors in their answers, or fails all required assignments. These students are generally unable to continue their studies without additional classes.

8. ACADEMIC COURSE EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT

CORE READING:

1. ЭИ О-57 Информатика, медицинская информатика, статистика : учебник, Демидова А.А., Омельченко В.П., Москва: ГЭОТАР-Медиа, 2021

2. ЭИ М 42 Математическая статистика в медицине в 2 т. Том 1 : учебное пособие для вузов, Медик В. А., Токмачев М. С., Москва: Юрайт, 2024

3. ЭИ М42 Общественное здоровье и здравоохранение : учебник, Лисицин В.И., Медик В.А., Москва: ГЭОТАР-Медиа, 2024

4. ЭИ Р 47 Экономика и управление в здравоохранении : учебник и практикум для вузов, Шамшурин В. И. [и др.], Москва: Юрайт, 2024

FURTHER READING:

1. ЭИ Р97 Public Health Intelligence : Issues of Measure and Method, , Cham: Springer International Publishing, 2016

2. ЭИ С 81 Автоматизированная обработка и защита персональных данных в медицинских учреждениях : , Столбов А.П., Кузнецов П.П., Moscow: Менеджерздравоохранения, 2010

3. ЭИ Т69 Авторитетный главный врач : учебно-методическое пособие, Трифонов И.В., Москва: ГЭОТАР-Медиа, 2019

4. ЭИ П 83 Биоэтика : учебник и практикум для вузов, Новицкая Л. Ф. [и др.], Москва: Юрайт, 2024

5. ЭИ Х12 Новые нормы труда в поликлиниках : монография, Берсенева Е.А., Хабриев Р.У., Шипова В.М., Москва: ГЭОТАР-Медиа, 2020

6. ЭИ М42 Общественное здоровье и здравоохранение : руководство к практическим занятиям : учебное пособие, Лисицин В.И., Медик В.А., Токмачев М.С., Москва: ГЭОТАР-Медиа, 2024

7. ЭИ В 43 Экспертиза временной нетрудоспособности и медико-социальная экспертиза в амбулаторной практике : , Викторова И.А., Гришечкина И.А., Москва: ГЭОТАР-Медиа, 2021

SOFTWARE:

No special softwares is required

LMS AND ONLINE RESOURCES

https://online.mephi.ru/

http://library.mephi.ru/

9. LOGISTICAL SUPPORT

1. Интерактивная доска SMART SBM 685 (64-307)

2. Монитор Dell P2720D (64-307)

3. Мышь, клавиатура (64-307)

4. Персональный компьютер: Моноблок Lenovo V540-24IWL All-In-One 23,8" i3-8145U 8Gb 256GB_SSD_M.2 Intel (64-307)

5. Проектор SMART P109 (64-307)

6. Компьютерный класс (64-307)

10. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS

Recommendations for preparing for classes.

The practical lesson plan, topics, recommended readings, and the course's goals and objectives are communicated by the instructor during introductory classes or in the course's curriculum. Practical lessons help students gain a deeper understanding of the course material and develop skills for creatively working with scientific literature.

Before you begin studying the topic, you need to familiarize yourself with the main questions of the practical lesson plan and the list of recommended literature.

When preparing for a practical lesson, it's important to first review lecture notes, textbook sections, and teaching aids to gain a general understanding of the topic's place and significance in the course being studied. Then, work with additional literature and take notes on the recommended sources. While studying the recommended material, it's important to understand the structure of the topic being studied, identify key concepts, and follow their logic, thereby gaining insight into the problem being studied. It's important to keep notes of the material being studied, which, along with visual memory, engages motor memory and allows you to accumulate a personalized resource for quickly reviewing what you've read and mobilizing your accumulated knowledge.

Basic note-taking forms: outline (simple and detailed), excerpts, and abstracts. During preparation, it's important to compare sources, consider the material being studied, develop an action plan, and carefully consider your oral presentation.

Recommendations for preparing for the test.

Test – 10 -15-20-25 points. Each question – 1 (2) point.

TOPICS: Specified in each specific section

Answer requirements: A clear, detailed answer (2 points/question) or a choice of the correct answer to the test question (1 point/question).

Recommendations for preparing for a test/exam

Response requirements and evaluation criteria:

An "excellent" grade of 45-50 points on a test/exam is awarded for: a correct, complete, and logically constructed answer; the ability to use specialized terminology; the ability to illustrate theoretical principles with practical material.

A "good" grade of 35–44 points on the exam is awarded for: a correct, complete, and logically constructed answer with minor errors or inaccuracies; the ability to use specialized terminology, but incomplete conclusions or generalizations are made.

A “satisfactory” grade of 30–34 points on the exam is given for: a schematic, incomplete answer; inability to use special terms or ignorance of them; with one serious error;

An "unsatisfactory" grade of <30 points on the exam is given for: answering all questions on the ticket with serious errors; inability to use specialized terminology; inability to give examples of the practical use of scientific knowledge.

Admission to the exam in a discipline is granted if the number of points exceeds 30.

A student can earn between 30 and 50 points per semester.

The minimum score for an exam answer is 30, the maximum is 50.

Independent and research work of students

This type of activity is the most important way for students to acquire new knowledge, skills and abilities in mastering the discipline.

The educational goal of independent work is to master the sections of the discipline allocated for independent study, and the skills to work with educational and scientific literature.

The educational goal is to develop the student’s personality traits of hard work, perseverance, and comradely mutual assistance.

The developmental goal is to develop independence, intellectual skills, and the ability to analyze phenomena and draw conclusions. Independent work can be a source of knowledge, a means of testing it, improving, and consolidating knowledge, abilities, and skills.

The main principle of organizing students' independent work is an integrated approach aimed at developing reproductive and creative skills.

Depending on the location and time of the assignment, the nature of the instructor's guidance, and the method of monitoring, independent student work (SIW) is divided into the following types:

- elaboration of lecture material
- work on questions for independent study
- extracurricular independent work involving the student completing regular homework assignments, as well as academic and creative assignments.

Types of independent student work:

- review of previously studied material,
- use of internet resources,
- solving situational problems proposed by the instructor, which develop clinical thinking and force the student to apply knowledge acquired in various specialty subjects,
- completing creative assignments with a summary of the material covered in the form of drawings and tables,
- viewing videos, computer presentations, and slides. Watching educational videos by students helps optimize knowledge acquisition on a specific topic, broaden their horizons, and improve the long-term retention of knowledge, as visual perception of information is significantly more effective than auditory comprehension.
- participation in subject-specific Olympiads

Students' independent preparation for participation in student Olympiads involves in-depth study of the subject using all available sources of information and familiarization with topics not covered by the core curriculum. The Olympiad is the culmination of this work and a means of monitoring the independent work of the most active and talented students.

11. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS

A key stage of the practical lesson is students' independent work on mastering practical skills: in simulated conditions, at the patient's bedside, in the functional diagnostics room, etc. Depending on the specific lesson topic, the student independently (or under the instructor's supervision) interviews the patient, conducts a clinical examination, observes instrumental diagnostics, and studies the results of additional tests, summarizes the data, presents it as fragments of the patient's medical history, and reports the results to the instructor. Each student's achievements are assessed individually, based on their development of practical skills and their theoretical foundations.

Solving situational problems proposed by the instructor, which develop clinical thinking and force the student to apply knowledge acquired in various specialty subjects.

Grading and criteria for tests, extended quizzes, homework, and the final test:

1) - Tests are graded according to the following scheme: 1 point for every 1 correct answer. A student who has not started the work receives (-1) point.

2) - Extended quizzes are graded according to the following scheme: complete answer - 2 points, incomplete answer - 1 point, no answer - 0 points, student who has not started the work - (-2) points.

3) - Homework must be completed by all students to be admitted to the final assessment. Late submissions will result in a deduction of (-1) point from the final score.

4) - Presentation report grading criteria. Conversion from a 100-point to a 10 (5)-point system

5) - Essay evaluation criteria. Maximum 10 points. May be upgraded to a 5-point system.

10 points are awarded if all essay writing requirements are met: the problem is identified and its relevance justified, a brief analysis of the issue is provided and a logically presented personal position is presented, conclusions are formulated, the article is fully analyzed, the length is maintained, and formatting requirements are met.

9 points are awarded if the following essay writing requirements are met: the problem is identified and its relevance justified, a brief analysis of the issue is provided and a logically presented personal position is presented, conclusions are formulated, the article is fully analyzed, but the length is not maintained and formatting requirements are not met.

8 points - the main essay requirements are met, but some shortcomings are present. In particular, there are inaccuracies in the presentation of the material; there is a lack of logical consistency in the judgments; The abstract's length is not maintained; there are omissions in the formatting.

7 points – the basic abstract requirements are met, but the following shortcomings are present: there are inaccuracies in the presentation of the material; there is a lack of logical consistency in the judgments; conclusions are not formulated, the abstract's length is not maintained; there are omissions in the formatting.

6 points – there are significant deviations from the abstracting requirements; the topic is only partially covered; there are factual errors in the abstract's content, conclusions and a personal point of view on the problem are missing.

5 points – there are significant deviations from the abstract requirements: the topic is only partially covered; there are factual errors in the presentation of materials and methods, conclusions and a personal point of view on the problem are missing, the format is not maintained.

4 points – there are significant deviations from the abstract requirements: the relevance of the topic is not disclosed; Factual errors were made in the presentation of materials and methods, conclusions and personal perspective on the problem are missing, and the format is not followed.

3 points – there is no analysis of the relevance of the research topic, approaches, and methods used, although the formal length of the abstract is met.

2 points – the abstract topic is not covered, revealing a significant misunderstanding of the problem. However, the abstract length and formal requirements are met.

1 point – the abstract topic is not covered, revealing a significant misunderstanding of the problem.

0 points – the student did not submit an abstract.

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