

INSTITUTE OF ENGINEERING PHYSICS FOR BIOMEDICINE

APPROVED ИТС ИФИБ

Protocol No. 3.1

dated 30.08.2024

**ACADEMIC COURSE OUTLINE**

ПЕРВАЯ ПОМОЩЬ И УХОД ЗА БОЛЬНЫМИ / FIRST AID AND GENERAL NURSING

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

<b>Semester</b>	<b>Labour input, credits</b>	<b>Total course academic, hours</b>	<b>Lectures, hrs.</b>	<b>Practical sessions, hrs.</b>	<b>Laboratory sessions, hrs.</b>	<b>In the form of practical studies, hrs.</b>	<b>Independent studies, hrs.</b>	<b>Independent studies monitoring, hrs.</b>	<b>Course progress, Exam/Pass-fail exam/Term</b>
2	3	108	0	60	0		48	0	PFE
Total	3	108	0	60	0	0	48	0	

## ABSTRACT

The course curriculum is designed based on the requirements for completion of the specialist degree program. Graduates (medical practitioners) must be prepared to address the challenges of organizing patient care within the framework of primary health care, including during emergencies, epidemics, and disaster areas; and to organize and monitor the activities of nursing staff.

Throughout this course, students acquire skills and abilities in organizing patient care, and experience medical practice in simulated settings.

### 1. ACADEMIC COURSE GOALS AND OBJECTIVES

Goal of learning the course: to develop competencies in organizing and implementing patient care, providing first aid, and interacting with colleagues and patients while adhering to ethical and deontological principles.

Objectives:

- to study the basic principles of medical institutions;
- to develop a system of knowledge about general nursing for diseases of various organs and systems, mastering general nursing techniques and organizing patient care within the framework of primary health care;
- to master techniques for providing first aid in emergency situations;
- to master techniques of professional conduct in accordance with the principles of medical ethics and deontology.

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

This course is a compulsory one. It builds on the knowledge, skills, and abilities acquired in such disciplines as "Latin," "Chemistry," "Medical and Biological Physics," and "Anatomy."

The logical continuation of the course "First Aid and General Nursing" is the Introductory Training. The knowledge, skills, and abilities acquired through mastering this course and during the Introductory Training are necessary for successfully completing the Industrial Internship, which will help students gain professional skills and experience in nursing positions.

### 3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional competencies:

Competency code and title	Code and title of competency-based rubrics
OIIK-1 [1] – Capable of implementing moral and legal norms, ethical and deontological principles in professional activities.	3-OIIK-1 [1] – Know: - main regulatory legal acts governing physician's activities; - concepts of medical confidentiality, informed voluntary consent for medical intervention, clinical guidelines, procedures and standards of medical care; - fundamental rights and obligations of physicians and patients; - principles of medical ethics (morality) and deontology. Y-OIIK-1 [1] – Be able to: - find and apply current regulatory legal acts in professional activities; - protect the rights of

	<p>physicians and patients.</p> <p>B-OPIK-1 [1] – Possess skills in: - interaction with colleagues and patients in compliance with ethics and deontology; - obtaining informed voluntary consent from patients or their legal representatives for medical interventions.</p>
<p>OPIK-6 [1] – Capable of organizing general nursing, providing primary medical care, ensuring the organization of work and making professional decisions in emergencies at the pre-hospital stage, in emergency situations, epidemics and in areas of mass destruction</p>	<p>3-OPIK-6 [1] – Know: - a set of measures for general nursing with diseases of various organs and systems; Signs of clinical and biological death; - indications for patient hospitalization for the most common diseases with typical progression.</p> <p>Y-OPIK-6 [1] – Be able to: - organize care for patient when providing medical care in an outpatient setting; - determine the need for patient hospitalization; - ensure the organization of work in emergency situations, epidemics, and in mass casualty zones.</p> <p>B-OPIK-6 [1] – Possess skills in: - general care of a patient (general nursing); - providing first aid; - making medical decisions in emergencies at the prehospital stage, including in emergency situations, epidemics, and in mass casualty zones.</p>
<p>YK-8 [1] – Capable of creating and maintaining safe living conditions in everyday life and professional activities to preserve the natural environment and ensure sustainable development of society, including in the event of the threat or occurrence of emergency situations and military conflicts.</p>	<p>3-YK-8 [1] – Know: - the main natural and man-made hazards, their properties and characteristics, the nature of the impact of harmful and hazardous factors on humans and the environment, methods of protection against them in relation to the sphere of their professional activity; - rules of conduct in the event of emergency situations of natural and man-made origin; - fundamentals of legislation in the field of sanitary and epidemiological well-being of the population, protection from emergency situations, and occupational safety; - methods of protection from dangers in the event of emergency situations during military operations or as a result of these actions.</p> <p>Y-YK-8 [1] – Be able to: - identify hazardous and harmful environmental factors within the context of ongoing activities, in emergency situations, and in military conflicts; - select methods of protection against hazards applicable to the scope of their professional activities and ways to ensure comfortable living conditions; - assess the sanitary and epidemiological situation in order to create and maintain safe living conditions.</p> <p>B-YK-8 [1] – Possess the following skills: - use of personal and collective protective equipment; - provision of first aid to victims; - rationalization of professional activities in order to ensure safety and environmental protection.</p>

#### 4. PEDAGOGIC POTENTIAL OF THE COURSE

<b>Pedagogic tracks/objectives</b>	<b>Pedagogic goals (code)</b>
Vocational and labor education	Establishing conditions for: formation of a deep understanding of the profession's social role, a positive and active commitment to the values of the chosen specialty, and a responsible attitude towards

	professional activity and work (B14)
Vocational and labor education	Establishing conditions for: formation of psychological readiness for professional activity in the chosen profession (B15)
Professional education	Establishing conditions for: formation of responsibility for professional choice, professional development and professional decisions (B18)
Professional education	Establishing conditions for: formation of the ability and commitment to adhere to professional norms that ensure the ethical character of both work activities and personal conduct outside of work (B21)
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
	<i>2 Semester</i>						
1	The Importance of Nursing.	1-2	0/12/0		10	T-2	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, В-УК-8
2	General patient care activities	3-10	0/34/0		30	T-10	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, 3-УК-8
3	First Aid	11-15	0/14/0		10	T-15	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, 3-УК-8
	<i>Totals for 2 Semester</i>		0/60/0		50		
	<b>Assessment events for 2 Semester</b>				50	PFE	В-ОПК-6, 3-УК-8, У-УК-8,

							B-УК-8, 3-ОПК-1, У-ОПК-1, В-ОПК-1, 3-ОПК-6, У-ОПК-6
--	--	--	--	--	--	--	--

\* – 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
PFE	Pass/fail examination

## SYLLABUS

Weeks	Topics / Content	Lect., hrs.	Pr./sem., hrs.	Lab., hrs.
	<i>2 Semester</i>	0	60	0
<b>1-2</b>	<b>The Importance of Nursing.</b>	0	12	0
1	<b>Introduction. Introduction to the subject and objectives of the course.</b> Introduction. Introduction to the subject and objectives of the course. Ethical and legal aspects of working with patients and medical documentation. Organizing interactions between medical staff and patients. Standards of communication between medical staff and patients. Informed voluntary consent for medical intervention..	All 0	2	0
		Online	0	0
1	<b>Hospital Sanitary Regulations</b> Hospital sanitation and its importance. Nosocomial infection and disinfection. Cleaning, lighting, and heating regulations for wards and common areas. Monitoring the sanitary condition of bedside tables and wards, ventilation, and the use of air disinfection devices in wards and medical offices. Sanitary education for medical personnel. Clinical hygiene for medical personnel. Appearance requirements. Medical clothing, personal protective equipment, and hand sanitization procedures.	All 0	4	0
		Online	0	0
2	<b>Organization of outpatient clinic and inpatient department operations.</b> Organization of outpatient clinic and inpatient department operations. Organization of the inpatient admissions department. Organization of diagnostic departments and/or offices. Organization of the in-hospital pharmacy and sterilization department. Organization of the pathology department. Procedures for handling corpses. Organization of the internal medicine, surgical, and intensive	All 0	4	0
		Online	0	0

	care departments.			
2	<b>Medical Records</b> Medical records, their types, and requirements for maintenance, security, and confidentiality. Introduction to filling out the title page of an inpatient and/or outpatient medical record, completing prescription and temperature sheets, and rules for obtaining and dispensing medications.	All		
		0	2	0
		Online		
		0	0	0
<b>3-10</b>	<b>General patient care activities</b>	0	34	0
	<b>Anthropometry and Thermometry</b> Anthropometry and thermometry. Plotting a temperature curve, types of fevers. Care for febrile patients. Basic physiotherapy measures, application of cooling agents, heating pads, and compresses; bloodletting and hirudotherapy, mechanism of action, indications, and contraindications.	All		
		0	2	0
		Online		
		0	0	0
	<b>Patient Hygiene</b> Sanitary treatment of patients and personal hygiene. Types of sanitization. Pediculosis and scabies. Detection methods and prevention. Skin and hair care, pressure ulcer prevention, changing underwear and bed linen. Changing underwear and bed linen. Providing a bedpan and urine bag.	All		
		0	2	0
		Online		
		0	0	0
	<b>Patient transportation.</b> Patient transportation. Positioning the patient on a functional bed, using devices to create a comfortable patient position.	All		
		0	3	0
		Online		
		0	0	0
	<b>Therapeutic nutrition</b> Therapeutic nutrition, basic principles of therapeutic nutrition, artificial nutrition. Organization of feeding for patients, including tube feeding	All		
		0	3	0
		Online		
		0	0	0
	<b>Administration of medications</b> Methods of administering medications. Distributing medications to patients, instilling drops into the eyes, nose, and ears.	All		
		0	3	0
		Online		
		0	0	0
	<b>Care for patients with respiratory diseases</b> Care for patients with respiratory diseases: cough, respiratory failure. Oxygen therapy in the ward. Sputum collection and respiratory rate counting guidelines. Enter a detailed description of the item here.	All		
		0	3	0
		Online		
		0	0	0
	<b>Care for patients with cardiovascular diseases</b> Care for patients with cardiovascular diseases: heart pain, high blood pressure, and circulatory failure. Rules for monitoring pulse and blood pressure. Measuring urine output and dynamically monitoring edema.	All		
		0	4	0
		Online		
		0	0	0
	<b>Care for patients with digestive diseases</b> Care for patients with digestive diseases: abdominal pain, dyspeptic disorders. Enemas. Stool collection guidelines. Preparing patients for endoscopic, ultrasound, and X-ray examinations of the gastrointestinal tract. Gastric and duodenal intubation..	All		
		0	4	0
		Online		
		0	0	0

	<b>Care for patients with urinary tract diseases.</b> Care for patients with urinary tract diseases. Urine collection guidelines for general analysis, Nechiporenko analysis, daily urine output determination, and the Zimnitsky test. Preparing patients for instrumental examinations of the urinary system. Catheterization of the bladder with a soft catheter.	All	0	4	0
		Online	0	0	0
	<b>Caring for patients with various illnesses and injuries. Agony. Death certification.</b> Specifics of caring for patients with various illnesses and injuries, patients of different ages, and the specifics of caring for seriously ill and dying patients. Death certification.	All	0	3	0
		Online	0	0	0
	<b>Specific aspects of patient care in surgical departments.</b> Specific aspects of patient care in surgical departments. Concepts of asepsis and antisepsis. Preparing patients for surgery. Postoperative patient care. The concept of "acute abdomen."	All	0	3	0
		Online	0	0	0
<b>11-15</b>	<b>First Aid</b>		0	14	0
	<b>Providing first aid for unconscious patients with respiratory and circulatory arrest.</b> Providing first aid for unconscious patients with respiratory and circulatory arrest. Understanding resuscitation measures. Artificial respiration and chest compressions. Principles of defibrillator use.	All	0	4	0
		Online	0	0	0
	<b>First aid for bleeding, injuries, burns, and frostbite</b> First aid for external bleeding, injuries to various areas of the body, burns, and the effects of exposure to high temperatures, thermal radiation, frostbite, and other effects of exposure to low temperatures. Types of dressings and principles of dressing application	All	0	6	0
		Online	0	0	0
	<b>Providing first aid for various conditions</b> First aid for foreign bodies in the upper respiratory tract, poisoning, electrical injury, and radiation injury	All	0	4	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
-------	------------------

	<i>2 Semester</i>
1 - 2	<p><b>The Importance of Nursing.</b></p> <p>1. Introduction. Introduction to the subject and objectives of the course. Introduction. Introduction to the subject and objectives of the course. Ethical and legal aspects of working with patients and medical documentation. Organizing interactions between medical staff and patients. Standards of communication between medical staff and patients. Informed voluntary consent for medical intervention</p> <p>2. Hospital sanitation and its importance. Nosocomial infection and disinfection. Cleaning, lighting, and heating regulations for wards and common areas. Monitoring the sanitary condition of bedside tables and wards, ventilation, and the use of air disinfection devices in wards and medical offices. Sanitary education for medical personnel. Clinical hygiene for medical personnel. Appearance requirements. Medical clothing, personal protective equipment, and hand sanitization procedures</p> <p>3. Organization of outpatient clinic and inpatient department operations. Organization of outpatient clinic and inpatient department operations. Organization of the inpatient admissions department. Organization of diagnostic departments and/or offices. Organization of the in-hospital pharmacy and sterilization department. Organization of the pathology department. Procedures for handling corpses. Organization of the internal medicine, surgical, and intensive care departments.</p> <p>4. Medical records, their types, and requirements for maintenance, security, and confidentiality. Introduction to filling out the title page of an inpatient and/or outpatient medical record, completing prescription and temperature sheets, and rules for obtaining and dispensing medications</p>
3 - 10	<p><b>General patient care activities</b></p> <p>1. Anthropometry and Thermometry Anthropometry and thermometry. Plotting a temperature curve, types of fevers. Care for febrile patients. Basic physiotherapy measures, application of cooling agents, heating pads, and compresses; bloodletting and hirudotherapy, mechanism of action, indications, and contraindications.</p> <p>2. Patient Hygiene. Sanitary treatment of patients and personal hygiene. Types of sanitization. Pediculosis and scabies. Detection methods and prevention. Skin and hair care, pressure ulcer prevention, changing underwear and bed linen. Changing underwear and bed linen. Providing a bedpan and urine bag</p> <p>3. Patient transportation. Patient transportation. Positioning the patient on a functional bed, using devices to create a comfortable patient position</p> <p>4. Therapeutic nutrition. Therapeutic nutrition, basic principles of therapeutic nutrition, artificial nutrition. Organization of feeding for patients, including tube feeding</p> <p>5. Administration of medications. Methods of administering medications. Distributing medications to patients, instilling drops into the eyes, nose, and ears.</p> <p>6. Care for patients with respiratory diseases: cough, respiratory failure. Oxygen therapy in the ward. Sputum collection and respiratory rate counting guidelines. Enter a detailed description of the item here.</p> <p>7. Care for patients with cardiovascular diseases: heart pain, high blood pressure, and circulatory failure. Rules for monitoring pulse and blood pressure. Measuring urine output and dynamically monitoring edema.</p> <p>8. Care for patients with digestive diseases: abdominal pain, dyspeptic disorders. Enemas. Stool collection guidelines. Preparing patients for endoscopic, ultrasound, and X-ray examinations of the gastrointestinal tract. Gastric and duodenal intubation..</p> <p>9. Care for patients with urinary tract diseases. Urine collection guidelines for general analysis, Nechiporenko analysis, daily urine output determination, and the Zimnitsky test.</p>

	<p>Preparing patients for instrumental examinations of the urinary system. Catheterization of the bladder with a soft catheter.</p> <p>10. Specific aspects of patient care in surgical departments. Concepts of asepsis and antisepsis. Preparing patients for surgery. Postoperative patient care. The concept of "acute abdomen."</p> <p>11. Caring for patients with various illnesses and injuries. Agony. Death certification. Specifics of caring for patients with various illnesses and injuries, patients of different ages, and the specifics of caring for seriously ill and dying patients. Death certification</p>
11 - 15	<p><b>First Aid</b></p> <p>1. Providing first aid for unconscious patients with respiratory and circulatory arrest. Providing first aid for unconscious patients with respiratory and circulatory arrest. Understanding resuscitation measures. Artificial respiration and chest compressions. Principles of defibrillator use.</p> <p>2. First aid for bleeding, injuries, burns, and frostbite First aid for external bleeding, injuries to various areas of the body, burns, and the effects of exposure to high temperatures, thermal radiation, frostbite, and other effects of exposure to low temperatures. Types of dressings and principles of dressing application</p> <p>3. Providing first aid for various conditions First aid for foreign bodies in the upper respiratory tract, poisoning, electrical injury, and radiation injury</p>

## 6. EDUCATIONAL TECHNOLOGIES

Teaching methods include the use of multimedia, interactive approaches, and laboratory equipment to acquire theoretical knowledge and practical skills.

For independent preparation for practical classes and exams, students are provided access to full-text textbooks and articles from electronic databases.

Simulation technologies are used to master general patient care and first aid skills.

## 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-1	3-ОПК-1	PFE, T-2, T-10, T-15
	Y-ОПК-1	PFE
	B-ОПК-1	PFE
ОПК-6	3-ОПК-6	PFE, T-2, T-10, T-15
	Y-ОПК-6	PFE, T-2, T-10, T-15
	B-ОПК-6	PFE, T-2, T-10, T-15
УК-8	3-УК-8	PFE, T-10, T-15
	Y-УК-8	PFE
	B-УК-8	PFE, T-2

### 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:

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

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-85 General Care of a Patient : учебное пособие, Osloпов V.N., Bogoyavlenskaya O.V., Москва: ГЭОТАР-Медиа, 2021

2. ЭИ О-85 General Care of a Patient : учебное пособие, Oslopov V.N., Bogoyavlenskaya O.V., Москва: ГЭОТАР-Медиа, 2019

#### FURTHER READING:

1. ЭИ К 72 Основы ухода за пациентом в хирургической клинике = Basics of Nursing Care in Surgery : учебное пособие на русском и английском языках : учебник, Тигай Ж.Г., Косцова Н.Г., Бадретдинова А.И., Москва: ГЭОТАР-Медиа, 2020

#### SOFTWARE:

No special softwares is required

#### LMS AND ONLINE RESOURCES

<https://online.mephi.ru/>

<http://library.mephi.ru/>

### **9. LOGISTICAL SUPPORT**

1. Симуляционный центр (64-301)
2. Симуляционный центр (64-302)
3. Персональный компьютер: Моноблок Lenovo V540-24IWL All-In-One 23,8" i3-8145U 8Gb 256GB\_SSD\_M.2 Intel (64-301)
4. Мышь, клавиатура (64-301)
5. Видеокамера Microsoft LifeCam Cinema HD (64-301)
6. Фантом головы с пищеводом и желудком (64-301)
7. Комплект зондов желудочных одноразовых и дуоденальных (64-301)
8. Контейнер для сбор медицинских отходов "Б" (64-301)
9. Контейнер для сбора медицинских отходов "А" (64-301)
10. Стойка (штатив) для инфузионных систем (64-301)
11. Тренажер интубации с контроллером (64-301)
12. Фантом реанимационный (торс) с электрическим контроллером (64-301)
13. Фантом предплечья для внутривенных инъекций с дополнительным вкладышем (64-301)
14. Накладка для инсулиновых, подкожных и внутримышечных инъекций (64-301)
15. Фантом руки для внутривенных инъекций (64-301)

16. Фантом мужской промежности для катетеризации мочевого пузыря (64-301)
17. Фантом женской промежности для катетеризации мочевого пузыря (64-301)
18. Фантом таза для постановки клизмы, внутримышечных инъекций, обработки стом (64-301)
19. Катетеры Фолея и Нелатона (64-301)
20. Персональный компьютер: Моноблок Lenovo V540-24IWL All-In-One 23,8" i3-8145U 8Gb 256GB\_SSD\_M.2 Intel (64-302)
21. Мышь, клавиатура (64-302)
22. Видеокамера Microsoft LifeCam Cinema HD (64-302)
23. Кровать функциональная механическая с матрасом и штативом для капельниц (64-302)
24. Фантом человека для сестринского ухода с аускультацией и измерением артериального давления (64-302)
25. Столик процедурный передвижной (64-302)
26. Тонометр для измерения артериального давления механический (64-302)
27. Стетоскоп (64-302)
28. Персональный компьютер: Моноблок Lenovo V540-24IWL All-In-One 23,8" i3-8145U 8Gb 256GB\_SSD\_M.2 Intel (64-401)
29. Проектор SMART P109 (64-401)
30. Мышь, клавиатура (64-401)
31. Интерактивная доска SMART SBM 685 (64-401)
32. Видеокамера Microsoft LifeCam Cinema HD (64-401)
33. Кровать функциональная механическая с матрасом и штативом для капельниц (64-301)
34. Инвалидное кресло-коляска (64-401)
35. Тележка-каталка медицинская (64-401)
36. Фантом человека как полноростовой для отработки навыков транспортировки (64-401)
37. Манекен сердечно-легочной реанимации P4201CPR ВОЛОДЯ. Модификация 1 (64-301)
38. Мешок Амбу КД-МП-В (64-301)
39. Термометры бесконтактные, термометры аналоговые (64-301)

## **10. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS**

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, you should 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, consult additional literature and take notes on the recommended sources.

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

It is necessary to keep records of the material being studied in the form of notes, which, along with visual memory, also includes motor memory and allows for the accumulation of an individual fund of auxiliary materials for the rapid repetition of what has been read, for the mobilization of accumulated knowledge

Basic note-taking forms: outline (simple and detailed), excerpts, and abstracts. During preparation, it is 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 based on a score of over 30 points.

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

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

## **11. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS**

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 test 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 test -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) Credit/Exam Grading Criteria

Author(s):

Krupnova Tatyana Sergeevna / Крупнова Татьяна  
Сергеевна /

Vasilkina Olga Vladimirovna / Василькина Ольга  
Владимировна /

Artemova Valeriya Olegovna / Артемова Валерия  
Олеговна /