

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

DEPARTMENT OF FUNDAMENTAL MEDICINE

APPROVED ИТС ИФИБ

Protocol No. 3.1

dated 30.08.2024

THE FINAL ATTESTATION PROGRAM FOR GRADUATES

Educational program title (specialization) General Medicine

Educational program track (speciality) 31.05.01 General Medicine

Graduate’s qualification degree Medical doctor

Program mode Intramural

Course	Labour input, credits	Contact work, hrs.	Control form
7	3	8	FA

1. FINAL ATTESTATION GOALS AND OBJECTIVES

Goal: To determine the graduate's level of preparation for professional tasks and their compliance with the requirements of the federal state educational standard and the main professional educational program for the field of study 31.05.01 General Medicine.

Objectives:

- To determine the student's level of knowledge, skills, experience, and competencies stipulated by the educational program;
- To determine the student's level of preparedness to solve professional problems;
- To identify deficiencies in the student's theoretical and practical preparation.

2. FINAL ATTESTATION FORMS

As a result of completing the educational program, students, in accordance with the Federal State Educational Standard, undergo Final Attestation (FA). The Final Attestation of graduates is conducted in compliance with the Regulation on the State Final Attestation of Graduates of MEPhI in higher education programs and includes a final examination and/or a final qualifying paper (project).

3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional skills:

Code and skill title	Code and title of the skill achievement indicator
OPIK-1 – Capable of implementing moral and legal norms, ethical and deontological principles in professional activities.	3-OPIK-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-OPIK-1 – Be able to: - find and apply current regulatory legal acts in professional activities; - protect the rights of physicians and patients. B-OPIK-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.
OPIK-2 – Capable of conducting and monitoring the effectiveness of measures for prevention, healthy lifestyle promotion, and sanitary-hygienic education of the population	3-OPIK-2 – 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. Y-OPIK-2 – 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

	<p>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.</p> <p>B-OIPK-2 – 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.</p>
<p>OIPK-4 – Capable of using medical devices stipulated by the medical care procedures, as well as conducting patient examination for diagnosis establishment.</p>	<p>3-OIPK-4 – Know: - modern diagnostic instrumental examination methods for patients, including functional, radiological, ultrasound, radionuclide diagnostics, and endoscopy; - diagnostic capabilities of instrumental examination methods; - medical devices stipulated by the procedure for providing medical care to the adult population in the "Therapy" specialty, and the equipment standard for a therapeutic room; - main medical devices stipulated by the procedures for providing medical care to the adult population in major surgical specialties, obstetrics, and gynecology; - indications for referring patients for instrumental examinations and functional diagnostics; - techniques for physical examination of patients using medical devices stipulated by procedures and considering medical care standards</p> <p>Y-OIPK-4 – Be able to: - use medical devices stipulated by the medical care procedure; - determine the required volume and content of instrumental and functional diagnostics to establish a diagnosis; - interpret results of the most common functional and instrumental diagnostic methods</p> <p>B-OIPK-4 – Possess skills in: - using basic medical devices (stethoscope, blood pressure monitor, sphygmomanometer, pulse oximeter, height-weight scale, measuring tape, neurological hammer, scalpel, forceps, and other devices); - operating electrocardiographs and devices for measuring external respiratory function; - interpreting results of the most common functional and instrumental diagnostic methods</p>
<p>OIPK-6 – 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,</p>	<p>3-OIPK-6 – 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-OIPK-6 – 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</p>

<p>epidemics and in areas of mass destruction</p>	<p>work in emergency situations, epidemics, and in mass casualty zones. B-OPIK-6 – 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>OPIK-7 – Capable of prescribing treatment and monitoring its effectiveness and safety.</p>	<p>3-OPIK-7 – Know: - pharmacological groups of medicinal drugs and their intended purposes; - mechanisms of action of pharmacological and non-pharmacological treatments, indications and contraindications for their use, side effects, and complications caused by their application; - methods for monitoring the effectiveness and safety of various treatment approaches. Y-OPIK-7 – Be able to: - make rational choices for pharmacological and non-pharmacological treatments based on clinical guidelines and in accordance with medical care standards; - develop a treatment plan for a disease or condition considering the diagnosis, age, disease course characteristics, and comorbidities, based on clinical guidelines and medical care standards; - prescribe medications, medical devices, and therapeutic nutrition considering the diagnosis, age, disease course characteristics, and comorbidities, based on clinical guidelines and medical care standards; - justify prescribed pharmacological and non-pharmacological treatments; - evaluate the effectiveness and safety of medications, medical devices, therapeutic nutrition, and other treatment methods. B-OPIK-7 – Possess skills in: - administering medications through various routes of administration; - developing treatment plans for diseases or conditions considering diagnosis, age, disease course characteristics, and comorbidities; - assessing the effectiveness and safety of prescribed treatments.</p>
<p>OPIK-8 – 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.</p>	<p>3-OPIK-8 – 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. Y-OPIK-8 – 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</p>

	<p>guidelines, and medical care standards.</p> <p>B-OIIK-8 – 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.</p>
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Professional skills in accordance with goals and objectives (knowledge area) of the professional activity:

Professional skills in accordance with goals and objectives (knowledge area) of the professional activity	Professional activity task Object or knowledge area	Code and professional skill title The base is the professional standard. Experience analysis	Code and title of the professional skill achievement indicator
medical			
Providing medical care to patients in urgent and emergency forms.	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	<p>IIK-3.1 - Able to provide medical care to patients in urgent or emergency forms</p> <p><i>The base:</i> Professional standard: 02.009</p>	<p>3-IIK-3.1 Know: - clinical signs of sudden cessation of breathing, circulation, loss of consciousness, life-threatening mental disorders for the patient or others; - indications for external defibrillation; - principles of external electro-impulse therapy (defibrillation) devices and rules for performing external defibrillation; - rules for performing basic cardiopulmonary resuscitation.;</p> <p>Y-IIK-3.1 Be able to: - recognize conditions (sudden acute illnesses, exacerbations of chronic diseases) requiring medical care in urgent or emergency forms; - identify clinical signs of sudden cessation of breathing, circulation, loss of consciousness, life-threatening mental disorders for the patient or others; - organize and perform basic cardiopulmonary resuscitation and external</p>

			defibrillation measures.; B-ПІК-3.1 Possess skills in: - assessing the patient's condition requiring medical care in urgent and emergency forms; - performing basic cardiopulmonary resuscitation; - using medications and medical devices for providing medical care in emergency or urgent forms.
Diagnostics of diseases and pathological conditions of the patients.	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population	ПІК-3.2 - Capable of conducting patient examinations to establish a diagnosis <i>The base:</i> Professional standard: 02.009	3-ПІК-3.2 Know: - clinical diagnosis establishment algorithm; - patient history-taking and physical examination methodology; - laboratory and instrumental research methods for health assessment to establish a diagnosis; - semiotics of diseases of different organs and systems; - structure, principles of the current International Statistical Classification of Diseases and Related Health Problems (hereinafter - ICD).; У-ПІК-3.2 Be able to: - conduct patient history-taking and physical examination; - interpret history, physical examination data, laboratory and instrumental results to recognize a condition or establish the presence/absence of a disease, establish a diagnosis; - distinguish and recognize in each specific case tissue damage, the reaction to it, and the form of adaptability; - develop a patient examination plan, justify the necessity and scope of laboratory and

			<p>instrumental examination;</p> <ul style="list-style-type: none"> - identify main pathological conditions, symptoms and syndromes, nosological forms in the patient according to the current ICD.; <p>B-ПК-3.2 Possess skills in:</p> <ul style="list-style-type: none"> - patient history-taking and physical examination; <p>Formulating a preliminary diagnosis;</p> <ul style="list-style-type: none"> - developing a patient examination plan; <p>Interpreting laboratory and instrumental results;</p> <ul style="list-style-type: none"> - establishing a diagnosis considering the current ICD
<p>Providing primary medical care in outpatient settings and day hospital settings.</p>	<p>Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and strengthening the health of the adult population</p>	<p>ПК-3.3 - Able to provide primary medical care in an outpatient setting</p> <p><i>The base:</i> Professional standard: 02.009</p>	<p>3-ПК-3.3 Know:</p> <ul style="list-style-type: none"> - general issues of organizing medical care for the population and organizing medical care for the adult population in outpatient settings, including at home; - features of medical care using telemedicine technologies; - Clinical picture, differential diagnosis, features of the course of the disease, complications and outcomes of internal diseases; - diagnostic criteria for the most common diseases of internal organs and systems; - indications for referring patients for specialist consultations according to clinical guidelines and considering relevant medical care standards; - indications for referring patients for specialized medical care in inpatient settings and day hospitals according to clinical guidelines and considering relevant medical care standards; - features of managing and

			<p>treating elderly patients in outpatient settings. ;</p> <p>Y-IIK-3.3 Be able to: - perform differential diagnosis of internal diseases; - monitor the course of physiological pregnancy; - justify the need for referring patients to specialist consultations; - recognize the main and concomitant diseases; - assess disease or condition severity - the degree of organ and/or system damage or functional impairment due to the disease/condition or its complications; - determine management, examination and treatment tactics for patients with specific diseases (nosological units) depending on disease severity and condition, according to clinical guidelines and considering relevant medical care standards.;</p> <p>B-IIK-3.3 Possess skills in: - conducting differential diagnosis with other diseases/conditions, including emergencies; - interpreting data obtained from patient consultations with specialists; - prescribing additional tests to clarify the diagnosis; - formulating a clinical diagnosis; - prescribing treatment according to clinical guidelines and considering relevant medical care standards.</p>
organizational and managerial			
Collection of medical data, medical and statistical analysis of information on the population health indicators for various	Individuals (patients); the population; the set of means and technologies aimed at creating conditions for preserving and	<p>IIK-3.4 - Able to analyze population health indicators</p> <p><i>The base:</i></p> <p>Professional standard:</p>	<p>3-IIK-3.4 Know: - factors shaping human health; - main medical-statistical indicators characterizing population health, methods for their calculation; -</p>

age and sex groups.	strengthening the health of the adult population	02.022	methodologies for collecting medical-statistical information.; Y-IIK-3.4 Be able to: - analyze statistical indicators of morbidity with temporary disability, disability, mortality.; B-IIK-3.4 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	<p>IIK-3.5 - Able to maintain medical documentation and organize the work of subordinate nursing staff</p> <p><i>The base:</i> Professional standard: 02.009</p>	<p>3-IIK-3.5 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.;</p> <p>Y-IIK-3.5 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.;</p> <p>B-IIK-3.5 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.</p>

4. EDUCATIONAL POTENTIAL

Educational program track/Education goals	Education tasks (code)
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 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. STRUCTURE AND CONTENT

No.	Examination part title	Number of weeks	Maximum grade per section	Control form	Competency-based rubrics
1	Final attestation	2	100	FA	ОПК-1, ОПК-2, ОПК-4, ОПК-6, ОПК-7, ОПК-8, ПК-3.1, ПК-3.2, ПК-3.3, ПК-3.4, ПК-3.5

Control forms abbreviation titles:

Abbreviation	Full name
FA	Final attestation

SYLLABUS

Weeks	Topics / Content
1-2	Final attestation
1-1	Assessing the level of theoretical knowledge development in graduates. Assessing the level of skills, abilities, and competencies developed by graduates by solving practical tasks
2-2	Evaluation of the level of development of graduates' skills, abilities and competencies by solving clinical situational tasks

6. ASSESSMENT TOOLKIT

The assessment tools are provided in the Appendix.

7. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT

CORE READING:

1. ЭИ D53 Diagnostic radiology : учебник, Москва: ГЭОТАР-Медиа, 2021
2. ЭИ Г 72 General surgery : Рекомендовано УМО по медицинскому и фармацевтическому образованию вузов России в качестве учебного пособия для иностранных студентов медицинских вузов, Москва: ГЭОТАР-Медиа, 2020
3. ЭИ G46 Gynecology : Рекомендовано ФГБОУ ВО "Первый Московский государственный медицинский университет имени И.М. Сеченова" в качестве учебника для студентов учреждений высшего профессионального образования, обучающихся по специальности 060101.65 "Лечебное дело" по дисциплине "Акушерство и гинекология", Москва: ГЭОТАР-Медиа, 2020
4. ЭИ I-60 Infectious diseases: textbook : учебник, Москва: ГЭОТАР-Медиа, 2020
5. ЭИ И 24 Internal diseases propedeutics : Рекомендовано УМО по медицинскому и фармацевтическому образованию вузов России в качестве учебного пособия для студентов медицинских вузов, обучающихся на английском языке, Москва: ГЭОТАР-Медиа, 2020
6. ЭИ H99 Internal Diseases. Volume I : , Москва: ГЭОТАР-Медиа, 2022
7. ЭИ H99 Internal Diseases. Volume II : , Москва: ГЭОТАР-Медиа, 2022
8. ЭИ G96 Neurology and neurosurgery. Vol. 1. Neurology : учебник, Москва: ГЭОТАР-Медиа, 2023
9. ЭИ G96 Neurology and neurosurgery: in 2 vol. Vol. 2. Neurosurgery : учебник, Москва: ГЭОТАР-Медиа, 2023
10. ЭИ R13 Obstetrics : Рекомендовано ГБОУ ВПО "Первый Московский государственный медицинский университет имени И.М. Сеченова" в качестве учебника для студентов образовательных учреждений высшего профессионального образования, обучающихся по направлению подготовки "Лечебное дело" по разделу дисциплины "Акушерство и гинекология", Москва: ГЭОТАР-Медиа, 2018
11. ЭИ S34 Obstetrics and gynecology : Vol. 1. Physiological obstetrics : учебное пособие, Москва: ГЭОТАР-Медиа, 2021
12. ЭИ S34 Obstetrics and gynecology : Vol. 3 : учебник, Москва: ГЭОТАР-Медиа, 2021
13. ЭИ S57 Obstetrics and gynecology: Vol. 2. Obstetric pathology : учебник, Москва: ГЭОТАР-Медиа, 2021

14. ЭИ S34 Obstetrics and gynecology: Vol. 4. Gynecology : учебник, Москва: ГЭОТАР-Медиа, 2021
15. ЭИ P17 Otorhinolaryngology : учебник, Москва: ГЭОТАР-Медиа, 2020
16. ЭИ O-92 Outpatient Therapy : учебник, Москва: ГЭОТАР-Медиа, 2023
17. ЭИ P38 Pediatric diseases : textbook : учебник, Москва: ГЭОТАР-Медиа, 2022
18. ЭИ K76 Phthisiatry : учебник, Москва: ГЭОТАР-Медиа, 2019
19. ЭИ T89 Psychiatry : textbook : учебное пособие, Москва: ГЭОТАР-Медиа, 2022
20. ЭИ M59 Surgical diseases. Vol. 1. : учебное пособие, Москва: ГЭОТАР-Медиа, 2021
21. ЭИ T44 The Course of Faculty (Analitical) Surgery in Pictures, Tables and Schemes : учебное пособие, Москва: ГЭОТАР-Медиа, 2017
22. ЭИ T65 Traumatology and Orthopedics : учебник, Москва: ГЭОТАР-Медиа, 2023
23. ЭИ A 13 Абдоминальная хирургия : , Москва: ГЭОТАР-Медиа, 2021
24. ЭИ A 11 Акушерство : практическое руководство, Москва: ГЭОТАР-Медиа, 2021
25. ЭИ A 44 Акушерство и гинекология. Практические навыки и умения с фантомным курсом : , Москва: ГЭОТАР-Медиа, 2022
26. ЭИ Д 64 Анестезиология и реаниматология : учебник, Москва: ГЭОТАР-Медиа, 2021
27. ЭИ К 70 Анестезиология, реанимация, интенсивная терапия. Клинико-лабораторная диагностика : учебник для вузов, Москва: Юрайт, 2025
28. ЭИ В 60 Внутренние болезни. В 2 томах. Том 1. : , Москва: ГЭОТАР-Медиа, 2023
29. ЭИ В 60 Внутренние болезни. В 2 томах. Том 2. : , Москва: ГЭОТАР-Медиа, 2023
30. ЭИ Г 49 Гинекология : национальное руководство, Москва: ГЭОТАР-Медиа, 2020
31. ЭИ Ч-34 Дерматовенерология : учебник, Москва: ГЭОТАР-Медиа, 2020
32. ЭИ Д 26 Дерматовенерология. Клинические задачи : учебник для вузов, Москва: Юрайт, 2025
33. ЭИ Д36 Дерматологический атлас : монография, Москва: ГЭОТАР-Медиа, 2023
34. ЭИ Д 38 Детские болезни : Гриф УМО по медицинскому и фармацевтическому образованию вузов России., Москва: ГЭОТАР-Медиа, 2009
35. ЭИ Л 37 Иммунология и клиническая иммунология. Аутоиммунные заболевания : учебное пособие для вузов, Санкт-Петербург: Лань, 2025
36. ЭИ И 73 Интенсивная терапия. В 2 томах. Том 1 : национальное руководство, Москва: ГЭОТАР-Медиа, 2022

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40. ЭИ Б 93 Клиническая лабораторная диагностика: сборник ситуационных задач : учебное пособие для вузов, Санкт-Петербург: Лань, 2025
41. ЭИ К49 Клиническое обследование пациента : Серия "Онкология", Москва: ГЭОТАР-Медиа, 2021
42. ЭИ Л87 Лучевая диагностика : учебник, Москва: ГЭОТАР-Медиа, 2023
43. ЭИ Т 80 Лучевая терапия (радиотерапия) : учебник, Москва: ГЭОТАР-Медиа, 2018
44. ЭИ И 46 Медицинская реабилитация : учебник для вузов, Москва: Юрайт, 2025
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47. ЭИ Т 88 Общая рецептура : учебное пособие для вузов, Санкт-Петербург: Лань, 2024
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50. ЭИ О-91 Офтальмология : учебник, Москва: ГЭОТАР-Медиа, 2023
51. ЭИ П50 Поликлиническая терапия : учебник, Москва: ГЭОТАР-Медиа, 2024
52. ЭИ К 56 Психиатрия : учебник для вузов, Москва: Юрайт, 2025
53. ЭИ С87 Спирометрия : руководство для врачей : практическое руководство, Москва: ГЭОТАР-Медиа, 2024
54. ЭИ К 61 Травматология и ортопедия : учебник для вузов, Москва: Юрайт, 2025
55. ЭИ М25 Ультразвуковая диагностика : Серия "Карманные атласы по лучевой диагностике", Москва: ГЭОТАР-Медиа, 2020
56. ЭИ К63 Урология : учебник, Москва: ГЭОТАР-Медиа, 2022
57. ЭИ К 75 Факультетская хирургия : учебник для вузов, Москва: Юрайт, 2025
58. ЭИ Ф93 Фтизиатрия : учебник, Москва: ГЭОТАР-Медиа, 2024
59. ЭИ Ф94 Функциональная диагностика : национальное руководство : Серия "Национальные руководства", Москва: ГЭОТАР-Медиа, 2022

60. ЭИ О-28 Хирургические болезни. Руководство к практическим занятиям : учебное пособие, Москва: ГЭОТАР-Медиа, 2023
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62. ЭИ Э45 Электрокардиография : учебное пособие, Москва: ГЭОТАР-Медиа, 2023
63. ЭИ В 26 Эндокринология : учебник для вузов, Москва: Юрайт, 2025
64. ЭИ П14 Эндоскопия желудочно-кишечного тракта : монография, Москва: ГЭОТАР-Медиа, 2022
65. ЭИ Э71 Эпидемиология : учебник, Москва: ГЭОТАР-Медиа, 2023
66. ЭИ К 49 Ядерная медицина. Радионуклидная диагностика : учебник для вузов, Москва: Юрайт, 2025

FURTHER READING:

SOFTWARE:

No special softwares is required

LMS AND ONLINE RESOURCES

1. Электронная библиотека студента (www.studentlibrary.ru)

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

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

8. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS

Final Attestation is conducted in three stages:

I. Computerized testing.

II. Practical skills assessment.

III. Final interview using clinical case tasks

General Provisions.

The content of the final attestation is based on the following academic discipline and internships.

Акушерство / Obstetrics

Анестезиология и реаниматология / Anaesthesiology, Reanimatology

Гинекология / Gynecology

Госпитальная терапия с профессиональными болезнями / Hospital Therapy with Professional Diseases

Госпитальная хирургия / Hospital Surgery
 Детские болезни / Pediatrics
 Дерматовенерология / Dermatovenereology
 Интервенционная кардиология / Intervention Cardiology
 Инфекционные болезни / Infectious Diseases
 Неврология, нейрохирургия, медицинская генетика / Neurology, Medical Genetics,
 Neurosurgery
 Общественное здоровье и здравоохранение / Public Health and Health Care
 Онкология / Oncology
 Оториноларингология / Otorhinolaryngology
 Офтальмология / Ophthalmology
 Поликлиническая терапия / Ambulatory Therapy
 Психиатрия, медицинская психология / Psychiatry, Medical Psychology
 Радиология и радиотерапия / Radiology and Radiotherapy
 Травматология и ортопедия / Traumatology, Orthopedics
 Урология / Urinology
 Факультетская терапия / Internal Diseases
 Факультетская хирургия / Surgery
 Фтизиатрия / Phthisiatry
 Эндокринология / Endocrinology
 Эпидемиология / Epidemiology
 Производственная (диагностического профиля) / Practice for the diagnosis of diseases
 Производственная (терапевтического профиля) / Therapeutic practice
 Производственная (хирургического профиля) / Surgical practice
 Производственная (акушерско-гинекологического профиля) / Obstetric and
 gynecological practice
 Производственная (поликлиническое дело) / Outpatient care
 Производственная (по неотложным медицинским манипуляциям) / Emergency medical
 procedures practice

For each disease (condition), the student must understand and demonstrate readiness for professional activity.

- Definition, etiology, and pathogenesis;
- Current classification;
- Clinical presentation, clinical features, and possible complications;
- Diagnostic methods for diagnosis and differential diagnosis;
- Treatment and prevention;
- Surgical tactics and surgical intervention options (for diseases requiring surgical treatment);
- Prognosis and assessment of work capacity.
- Syndrome of lesions of various organs and systems, utilizing knowledge gained in related disciplines.

List of diseases (conditions)

Diseases of the respiratory system

Bronchitis.
Pneumonia. Nosocomial pneumonia.
Bronchiectasis.
Pleurisy
Bronchial asthma
Chronic obstructive pulmonary disease. Emphysema. Pulmonary circulatory disorders (pulmonary embolism, pulmonary hypertension)
Chronic pulmonary cor
Cystic fibrosis. Alpha-1 antitrypsin deficiency.
Parasitic lung diseases
Respiratory sarcoidosis
Disseminated pulmonary processes. Idiopathic pulmonary fibrosis, exogenous allergic alveolitis. Wegener's granulomatosis.
Acute and chronic respiratory failure.
Lung cancer
Pneumoconiosis.
Lung abscesses, pleural empyema.
Mediastinal tumors and cysts.
Pulmonary hemorrhage

Diseases of the circulatory system

Arterial hypertension: essential hypertension, secondary arterial hypertension.
Atherosclerosis and associated clinical conditions
Ischaemic heart diseases
Acute coronary syndrome
Acute myocardial infarction
Acute and chronic heart failure
Cardiac rhythm and conduction disorders
Rheumatism. Acute rheumatic fever.
Infective endocarditis
Non-rheumatic myocarditis and cardiomyopathy
Pericarditis
Left ventricular aneurysm and pseudoaneurysm. Pulmonary edema. Cardiogenic shock.
Dressler's syndrome.
Acquired heart defects in adults.
Chronic obliterating diseases of the arteries of the extremities
Acute thrombosis and embolism of the main arteries of the extremities.
Aortic and arterial aneurysms
Acute thrombosis of the main veins
Chronic venous insufficiency of the lower extremities
Thrombophlebitis and phlebothrombosis of the extremities. Superior and inferior vena cava syndrome. Lymphedema.

Diseases of the digestive system

Gastritis

Peptic ulcer of the stomach and duodenum
Esophagitis
Gastroesophageal reflux disease
Dysphagia syndrome. Achalasia of the cardia, cardiospasm, hiatal hernia.
Esophageal cancer
Stomach cancer
Hepatitis.
Autoimmune hepatitis.
Benign hyperbilirubinemia
Liver cirrhosis.
Primary biliary cirrhosis
Cholangitis. Primary sclerosing cholangitis
Liver cancer
Hemochromatosis, Wilson's disease
Pancreatitis
Pancreatic cancer
Cholelithiasis.
Acute and chronic cholecystitis
Diverticular disease of large intestine
Irritable bowel syndrome
Functional dyspepsia
Functional bowel disorder.
Inflammatory bowel disease – ulcerative colitis and Crohn's disease.
Malabsorption and digestion disorders. Enteropathy.
Biliary dyskinesia.
Postcholecystectomy syndrome
Acute appendicitis
Acute intestinal obstruction
Peritonitis
Acute abdomen
Anatomy of the anterior abdominal wall
Hirschsprung's disease
Colonic polyposis
Hemorrhoids.
Chronic proctitis
Colorectal cancer
Jaundice. Mechanical jaundice.
Portal hypertension syndrome.
Spleen diseases
Diseases of the postoperative stomach.
Gastrointestinal bleeding
Acute mesenteric circulatory disorders

Diseases of the urinary system, prostate gland, and testicles
Pyelonephritis. Nephritic syndrome.
Glomerulonephritis. Nephrotic syndrome.

Renal amyloidosis
Urolithiasis
Acute and chronic renal failure
Cystitis
Kidney and urinary tract trauma.
Kidney cancer.
Prostate cancer
Bladder tumors
Scrotal diseases. Varicocele.
Prostate diseases.

Rheumatology and joint diseases
Rheumatoid arthritis
Osteoarthritis
Ankylosing spondylitis
Gout and gouty arthritis
Reiter's syndrome
Systemic lupus erythematosus.
Systemic sclerosis

Dermatomyositis, Sjögren's disease. Antiphospholipid syndrome.
Systemic vasculitis.

Occupational diseases affecting the musculoskeletal system. Bursitis, epicondylitis, chronic tendovaginitis, peri-arthritis of the right shoulder joint, myositis.

Blood diseases

Anemia

Hemoblastoses. Acute leukemia. Chronic leukemia.

Myeloma

Erythremia

Lymphomas. Hodgkin's disease.

Hemorrhagic diathesis

Occupational diseases affecting the blood system. Lead intoxication. Aromatic hydrocarbon intoxication. Carboxyhemoglobinemia

Fever of unknown origin

Blood coagulation disorders

Hematological emergencies. Transfusion of blood and/or its components.

Endocrine diseases

Diabetes mellitus

Diabetic coma

Thyroid diseases (hypothyroidism, thyrotoxicosis, thyroiditis)

Thyroid cancer

Adrenal diseases (Cushing's syndrome, Hyperaldosteronism, hypocorticism, acute adrenal insufficiency, pheochromocytoma, hyperaldosteronism, hypoaldosteronism)

Hypothalamic-pituitary disorders (acromegaly, panhypopituitarism, somatotropic insufficiency, diabetes insipidus, hyperprolactinemia)

Obesity. Metabolic syndrome. Alimentary dystrophy.

Reproductive system disorders. Klinefelter syndrome. Gynecomastia.

Hyperparathyroidism, osteoporosis

Anesthesiology and resuscitation

Acute vascular, cardiac, and respiratory failure.

Shock

Coma

Acid-base imbalances.

Fluor-electrolyte imbalances

Adult respiratory distress syndrome. Status asthmaticus.

Disseminated intravascular coagulation syndrome.

Exo- and endotoxicoes. Pesticide intoxication.

Tuberculosis

Tuberculosis of the intrathoracic lymph nodes. Primary tuberculosis complex.

Disseminated pulmonary tuberculosis. Miliary pulmonary tuberculosis.

Focal pulmonary tuberculosis. Infiltrative pulmonary tuberculosis. Pulmonary tuberculoma.

Cavernous pulmonary tuberculosis. Fibrocavernous pulmonary tuberculosis. Tuberculous pleurisy.

Tuberculosis of the upper respiratory tract, trachea, and bronchi.

Tuberculosis of extrathoracic sites. Tuberculosis of the central nervous system. Tuberculosis of the peripheral lymph nodes.

Generalized tuberculosis.

Emergencies in tuberculosis of the respiratory organs. Spontaneous pneumothorax. Pulmonary hemorrhage

Infectious diseases

Typhoid fever and paratyphoid fever

Salmonellosis

Shigellosis

Botulism

Viral hepatitis A and E

Especially dangerous infections: cholera, plague, anthrax

Viral hepatitis A and E

Viral hepatitis B, C, D

Helminthiases

Malaria

Protozoal infections: amebiasis, toxoplasmosis, giardiasis

Influenza and coronavirus infection. Meningococcal infection

Diphtheria

Erysipelas

Tetanus

Rabies
Brucellosis
Tick-borne encephalitis
Hemorrhagic fevers
HIV infection and associated diseases
Childhood infections: measles, rubella, chickenpox, scarlet fever, whooping cough, mumps

Neurology
Stroke
Cerebral encephalopathy
Mono- and polyneuropathies
Multiple sclerosis
Guillain-Barré syndrome:
Dorsopathies (spinal osteochondrosis)
Spinal muscular atrophy; amyotrophic lateral sclerosis. Parkinson's disease
Myasthenia and myopathies
Traumatic brain injury
Tumors of the nervous system
Epilepsy
Neurosyphilis, neuroAIDS
Migraine
Neurointoxication and pesticide poisoning

Mental disorders
Manic and depressive syndrome. Bipolar disorder
Schizophrenia. Paranoid, paranoid, and paraphrenic syndromes.
Dementia
Mental retardation
Neurotic and stress-related, somatoform disorders
Alcohol dependence (chronic alcoholism). Alcohol withdrawal syndrome with delirium.

Emergency care.

Mental and behavioral disorders associated with psychoactive substance use (opiates, psychostimulants)

Neurotic, stress-related, and somatoform disorders

Attention deficit hyperactivity disorder

Mental and behavioral disorders associated with cerebrovascular diseases and traumatic brain injuries.

Dermatovenereology
Dermatitis: eczema, atopic dermatitis, psoriasis.
Localized and generalized toxicoderma. Lyell's syndrome. Erythema multiforme.
Pyoderma
Diseases of the sebaceous glands: seborrhea, acne, rosacea, demodicosis.
Scabies, pediculosis
Bullous dermatoses: true (acantholytic) pemphigus, Duhring's dermatosis.

Alopecia.

Leprosy

Syphilis.

Gonorrhea and other non-gonococcal urethritis

Mycoses of the skin and mucous membranes

Viral dermatoses: herpes simplex, herpes zoster, warts, molluscum contagiosum, Kaposi's angiosarcoma

Skin neoplasms. Melanoma.

Traumatology

Fractures of tubular and flat bones. Fractures of the humerus, elbow, and forearm bones.

Forearm dislocations.

Wrist injuries and diseases.

Traumatic joint injuries.

Femoral neck fractures

Hemarthrosis of the knee

Tibial fractures. Ankle injuries

Haloskeletal deformity

Calcaneal fractures. Fractures and dislocations of the talus, tarsal bones, and metatarsal bones

Injuries to the spine, spinal cord, and pelvis. Injuries to the abdominal cavity and abdominal organs (closed injuries, open injuries)

Injuries to the chest and thoracic organs.

Surgical debridement.

Amputations. Exarticulations. Prosthetics.

Polytrauma

Otolaryngology

Nasal bone fractures

Rhinitis and sinusitis

Nosebleeds

Diseases of the outer and middle ear: earwax impaction, foreign bodies, otohematoma, chondroperichondritis of the auricle

Otitis externa

Acute otitis media

Chronic suppurative otitis media

Acute mastoiditis: etiology, pathogenesis, clinical features, diagnosis, treatment, prevention.

Otosclerosis. Meniere's disease

Laryngeal injuries and foreign bodies

Acute laryngitis

Laryngeal stenosis

Foreign bodies in the respiratory tract. Laryngeal intubation. Tracheotomy, tracheostomy, conicotomy.

Pharyngitis

Paratonsillar and retropharyngeal abscesses, peritonsillitis

Tonsillitis

Benign and malignant tumors of the ENT organs

Ophthalmology

External eye diseases (eyelids, conjunctiva, cornea)

Glaucoma

Cataract

Iridocyclitis and sympathetic inflammation.

Diseases of the retina and optic nerve.

Eye tumors

Obstetrics and Gynecology

Physiology of pregnancy. Embryogenesis. Pregnancy diagnosis. Pathological pregnancy.

Fetal hypoxia and asphyxia

Biomechanism of labor.

Breech delivery and the postpartum period. Basic labor management protocol.

Breech delivery and the postpartum period. Basic labor management protocol.

Labor abnormalities (weak labor, uncoordinated labor)

Miscarriage and post-term pregnancy

Preterm labor.

Narrow pelvis

Early toxicosis, Preeclampsia, eclampsia.

Birth trauma to mother and fetus. Childbirth complications.

Caesarean section. Uterine scar, scar failure.

Extragenital diseases and pregnancy.

Immunological incompatibility between mother and fetus

Postpartum diseases

Amenorrhea, algomenorrhea

Abnormal uterine bleeding

Polycystic ovary syndrome

Premenstrual syndrome.

Climacteric syndrome. Post-varicose vein syndrome.

Ectopic pregnancy

Ovarian apoplexy. Ruptured ovarian cyst.

Nonspecific inflammatory diseases of the female genital tract. Vulvitis. Colpitis. Cervicitis.

Endometritis. Salpingitis. Oophoritis. Tubo-ovarian abscess. Pelvioperitonitis.

Specific inflammatory diseases of the female genital tract. Gonorrhea. Trichomoniasis.

Candidiasis. Chlamydia. Ureaplasmosis. Mycoplasmosis. Gardnerella. Genital warts.

Benign, underlying, and precancerous conditions of the cervix

Uterine fibroids

Endometrial hyperplasia

Endometriosis

Benign tumors and tumor-like formations of the ovaries

Uterine bleeding

Infertility

Modern contraception methods

Induced termination of pregnancy
Uterine cancer
Ovarian cancer
Mastitis and mastopathy
Breast cancer

I. Computerized Testing.

Testing determines the student's general competence within the framework of the requirements of the Federal State Educational Standard of Higher Education and the main educational program for specialty 31.05.01 General Medicine. Computerized testing (hereinafter referred to as testing) uses test items from the assessment toolkit for general professional competencies GPC-1, GPC-2, GPC-4, GPC-6, GPC-7, and PC-8, and professional competencies PC-3.1, PC-3.2, PC-3.3, PC-3.4, and PC-3.5.

The content of the tasks is based on the content of the disciplines and practical training courses involved in developing these competencies and specified in the general provisions.

The set of test items for each student consists of 50 questions and is generated by automatic random sampling from assessment fund. This stage is allotted 60 minutes. One point is awarded for each correct answer. Test results are considered passed if 30 or more points are received. In this case, the student is admitted to the next stage of the exam. A student who receives fewer than 30 points is not admitted to the next stage and is subject to expulsion due to an unsatisfactory result on the final Attestation.

Results are communicated to the graduate no later than 30 minutes after the end of the test.

II. Practical Skills Assessment

The second stage involves the student demonstrating practical skills in simulated conditions. The student randomly selects a practical task, which includes three practical skills.

The content of the practical task is based on the lists of practical skills stipulated in the work programs for 1 internships, as specified in the general provisions. The student is allotted 30 minutes to complete the task.

Practical skills are assessed by members of the examination committee (hereinafter referred to as the EC), which includes specialists in internal medicine, surgical diseases, obstetrics and gynecology. The EC members communicate the results to the student immediately after the completion of the stage.

The results of the second stage are considered successful (passed) if the EC members have no comments on the skills performed. In this case, the student is admitted to the next stage of the examination.

If the EC members have comments on the performance of two skills from the practical task, the student is not admitted to the next stage and is subject to expulsion due to an unsatisfactory result on the final assessment.

List of practical skills tested during the final assessment

Obtaining informed voluntary consent from the patient or their legal representative for medical intervention.

Interviewing the patient. Interviewing outline

General examination of the patient. Methods and techniques for direct clinical examination of the patient:

Determining the state of consciousness.

Determining body type

Anthropometry, clinical interpretation of results

Thermometry. Evaluation of temperature curve types.

Evaluation of the condition of the skin and visible mucous membranes.

Methods of physical examination of the lymph nodes. Diagnostic significance of the identified changes.

Assessment of the musculoskeletal system

Chest examination. Determining the shape of the chest and type of breathing

Determining the respiratory rate. Clinical interpretation of the results.

Chest palpation. Determining vocal fremitus. Clinical interpretation of the results.

Determining the respiratory excursion of the chest. Clinical interpretation of the results.

Comparative chest percussion.

Chest percussion. Topographic lines. Clinical interpretation of results.

Determining the mobility of the lower pulmonary margin. Clinical interpretation of results.

Chest auscultation. Methodology and rules. Bronchophony. Clinical interpretation of results.

Pulse oximetry. Clinical interpretation of results.

Examination of the heart area and neck. Clinical interpretation of results.

Palpation of the apical and cardiac impulse. Determining thrill and pulsation.

Determining the percussion boundaries of cardiac dullness.

Cardiac auscultation. Methodology. Determining heart tones and noise sounds and murmurs, the best auscultation sites.

Determining heart rate.

Examination of vessels, determining pulsation, auscultation of large vessels.

Examination of the arterial pulse on the radial arteries, determining characteristics, counting the rate.

Determining the correspondence between heart rate and pulse rate.

Determining blood pressure using the Korotkov method, methodology and technique.

Examination of the abdomen, oral cavity, and tongue.

Abdominal percussion. Method for determining ascites.

Determining the boundaries of absolute liver dullness using topographic lines.

Percussion of the spleen. Determining percussion boundaries.

Superficial orienting palpation of the abdomen. Technique.

Palpation of the liver edge and palpation of the gallbladder.

Palpation of the spleen.

Assessing symptoms for pancreatic pathology (determining tenderness at the Desjardins and Mayo-Robson points, assessing the Chauffard zone);

Identifying symptoms of peritoneal irritation. Identifying bladder symptoms: Ortner-Grekov, Mussi-Georievsky, Kerr, Murphy.

Deep, methodical, sliding palpation of the abdomen, methodology

Abdominal auscultation. Detection of gastric splash sounds.

Examination of the lumbar and suprapubic region.

Identification of Pasternatsky's sign.

Percussion determination of the upper border of the bladder.

Palpation of the kidneys.

Examination of the neck and palpation of the thyroid gland.

Identification of eye symptoms (Dalrymple's sign, Stellwag's sign, Moebius's sign, Graefe's sign).

Analysis and clinical interpretation of data obtained through questioning and direct examination of the patient, followed by formulation of a preliminary diagnosis.

Developing a patient investigation plan (additional laboratory and instrumental examination of the patient).

Recording patient examination results in medical documentation (in the form of a medical history (excerpt) explaining the preliminary diagnosis and a plan for further investigation.

Pulmonary function testing (Conducting a study of the function of external respiration)

Decoding and interpretation of spirometry results.

Clinical interpretation of chest X-ray results

ECG recording

ECG interpretation, ECG report preparation

Interpretation of 24-hour Holter ECG monitoring results

Interpretation of 24-hour blood pressure monitoring results

Clinical interpretation of echocardiography results

Clinical interpretation of cardiac X-ray results

Clinical interpretation of cardiac and vascular angiography results

Clinical interpretation of chest computed tomography results

Clinical interpretation of bronchoscopy results

Clinical interpretation of abdominal X-ray results

Clinical interpretation of stomach and intestinal X-rays, gallbladder, and biliary tract X-rays

Clinical interpretation of upper gastrointestinal endoscopy results

Clinical interpretation of abdominal ultrasound results

Clinical interpretation of abdominal and retroperitoneal CT scan results

Clinical interpretation of gastric secretion test results.

Clinical interpretation of esophageal motility test results.

Clinical interpretation of kidney and bladder ultrasound results.

Clinical interpretation of chest magnetic resonance imaging results, abdominal cavity, head.

Clinical interpretation of angiography results

Clinical interpretation of sputum analysis results;

Clinical interpretation of pleural fluid analysis results

Clinical interpretation of general blood test

complete blood count results

Clinical interpretation of the results of the main indicators in biochemical blood test

Clinical interpretation of key blood chemistry results

Clinical interpretation of coagulation profile results

Clinical interpretation of blood test results for immunological pathology

Clinical interpretation of infectious disease markers

Clinical interpretation of stool analysis results and fecal occult blood tests.

Clinical interpretation of the results of general urine analysis, urine analysis according to Nechiporenko, according to Zimnitsky

Clinical interpretation of biopsy specimen morphological examination results.

Clinical interpretation of cardiocography results

Formulating a preliminary diagnosis based on pathological changes identified during the patient's examination.

Determine the necessary scope and content of instrumental and laboratory diagnostics for chest pain, arterial hypertension, cardiomegaly and heart murmurs, cardiac arrhythmias, heart failure, edema, joint pain, prolonged dyspnea, abdominal pain, diarrhea, constipation, abnormal urinary sediment, generalized lymphadenopathy, and prolonged fever.

Formulate a comprehensive clinical diagnosis based on current classification and clinical guidelines;

Develop a treatment plan for the disease or condition taking into account the diagnosis, age, disease progression, and comorbidities.

Evaluate the effectiveness and safety of the prescribed treatment.

Identify signs of temporary disability and persistent dysfunction leading to limited vital functions.

Fill out (generate) a sick note, , referral for a medical and social assessment, and spa treatment;

Develop a program to educate patients and their families on self-monitoring of vital signs.

Give recommendations (a set of measures) to the patient on disease prevention and relapse prevention.

Prepare (generate) a referral to the local office of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing for an emergency notification upon detection of an infectious or occupational disease.

Draw up a report on the results of preventive medical examinations and follow-up observations.

Complete an outpatient medical record based on the examination results (doctor's note).

Confirmation of biological death.

Prepare prescriptions, including for narcotic and equivalent drugs.

Creating a plan for therapeutic and diagnostic surgical procedures.

Identifying indications for emergency surgery.

Dressing surgical patients. Preparing a set of instruments, materials, and medications, and performing primary surgical debridement.

Dressing a clean and purulent wound.

Applying antibacterial dressings.

Using a personal dressing pack.

Applying an aseptic dressing to a wound or burn surface.

Applying an elastic bandage to the lower extremities.

Determining ABO blood groups using anti-A and anti-B tsoliklones.

Assessing the suitability of blood, blood substitutes, and solutions for transfusion.

Changing colostomy or urostomy bags.

Formulating recommendations (a set of measures) for the prevention of postoperative complications.

Performing a digital rectal examination.

Collection anamnesis and performing an initial examination of a pregnant woman, a woman in labor, a woman in labor, women after childbirth, and patients with gynecological pathology.

Collecting External obstetric examination of pregnant women, Leopold-Levitsky maneuvers.

Assessment of the fetus's condition. Auscultation of the fetus's heartbeat, counting, and evaluation.

Determination of the due date and clarification of the gestational age

Assessing the newborn's condition using the Apgar scale

Skills of using a tape measure, a pelviometer, an obstetric stethoscope

Technique of external and internal obstetric and gynecological examination: (sequence, examination of the external genitalia, vaginal-abdominal (bimanual) examination, examination of the cervix using vaginal mirrors).

Techniques of obstetric maneuvers in childbirth

Manual examination of the mammary glands during lactation, assessment of their condition

Developing a pregnancy and childbirth management plan;

Expulsion the placenta using external techniques and assessment of the placenta's condition

Manipulations: vaginal douching, preparation and insertion of ointment tampons.

Formation (generate) a sick note due to illness or pregnancy and childbirth.

Recording the results of a pregnant woman's examination in her medical records

Formulate recommendations (a set of measures) for the prevention of gynecological diseases.

Providing emergency and urgent medical care for life-threatening conditions:

- sudden cardiac arrest,
- status anginosus;
- paroxysmal tachycardia;
- Morgagni-Adams-Stokes syndrome;
- hypertensive crises;
- acute respiratory failure;
- burns, frostbite, and electrical injury;
- poisoning and intoxication;
- esophageal burn;
- acute dehydration;
- shock;
- hyperthermia;
- acute cerebrovascular accident;
- cerebral edema;
- seizures, epileptiform seizures;
- disseminated intravascular coagulation;
- syncope, collapse;
- sunstroke and heatstroke;
- drowning;
- acute allergic reactions;
- asthma attack and status asthmaticus;
- diabetic coma;
- renal colic attack;
- acute intestinal and respiratory infections;
- animal and insect bites;
- Pneumothorax
- Pulmonary embolism
- Renal colic
- Hepatic colic

Assessment of the depth of disturbance of consciousness using the Glasgow Coma Scale

Determining the pupillary reactivity to light.

Assessment of signs of intracranial hypertension

Assessment of the degree of dehydration

Novocaine blocks

Lumbar and pleural puncture.

Administration of antibiotics and tetanus toxoid

Temporary control of external bleeding by:

- Digital pressure on the vessel;
- Applying a pressure bandage;
- Applying a tourniquet.

Removal of foreign bodies:

- From the conjunctiva;
- From the external auditory canal, from the nasal cavity;
- From the oral cavity.

Treatment of eye burns.

Anterior packing for nosebleeds.

Maintaining upper airway patency, including with airways and a laryngeal tube

Applying an occlusive dressing for open pneumothorax

Bladder catheterization for acute urinary retention

Inserting a peripheral venous catheter

Administering anesthetic

Conducting basic and advanced cardiopulmonary resuscitation, including using specialized medical devices, with the determination of conditions for refusing and indications for discontinuing it:

- Performing closed chest compressions
- Performing electrical impulse therapy (external defibrillation)
- Performing artificial ventilation using mouth-to-mouth, mouth-to-nose, and bag-mask.

III. Final interview using clinical case tasks

The third stage involves the student's response to a questionnaire consisting of two clinical situational tasks, the content of which is based on the disciplines and practical training specified in the general provisions, and the student's responses to clarifying and additional questions from the EC members.

Students are given up to 0.5 academic hours to prepare for the questionnaire. The duration of the exam response is determined by the nature and number of complex questions and is typically 0.5 academic hours per student.

When preparing for the oral response, students make the necessary notes on the questionnaire questions on sheets of paper issued by the EC Technical Secretariat with the PhysBio MEdPhI stamp.

An "Excellent" score of 90-100 points for the oral response is awarded provided that the student: demonstrates knowledge of the subject matter of the specialty in its entirety, and sufficiently comprehends the disciplines; Independently, in a logical sequence and exhaustively answers all questions in the exam, emphasizing the most essential points; knows how to analyze, compare, classify, generalize, concretize and systematize the studied material, highlighting the main points in it; establish cause-and-effect relationships; clearly formulates answers on issues of diagnosis, treatment and prevention of diseases, medical rehabilitation; economics and management in the healthcare system, the specifics of organizing medical care for certain groups of the population; the use of statistical methods in assessing the health of the population and the activities of medical organizations; demonstrates a deep understanding of the relationship between the anatomical and physiological characteristics of all organs and systems of the body in the age aspect for the purpose of diagnosing

and treating major diseases, their prognosis and prevention; formulates an algorithm for working on deep deontological and ethical positions of a physician; is well acquainted with regulatory documents necessary for the practical activity of a physician, and relies on them when solving a situational problem, clearly links the theoretical aspects of the subject with practical tasks.

"Good" (75-89 points) is awarded if the student: demonstrates knowledge of specialized disciplines covering almost the entire syllabus (with gaps in only a few, particularly difficult sections); provides complete answers to the questions independently and partially when prompted; does not always highlight the most important points, but does not make serious errors in their answers; has a knowledge of the basic principles of deontology and possesses clinical reasoning;

"Satisfactory" (60-74 points) is awarded if the student: demonstrates a basic knowledge of specialized disciplines; exhibits difficulty in independently answering questions, uses imprecise wording; makes errors in answering questions regarding the substance of the questions. The student is partially capable of solving situational problems, is not well versed in methodology, and has a poor knowledge of the basic principles of deontology;

"Unsatisfactory" (<60 points) is awarded if the student: has not mastered the required minimum knowledge of specialized disciplines; is unable to answer the questions even with additional prompting from the examiner. If a student scores less than 60 points, the exam is considered failed.

The maximum score is 100, and the minimum is 60 points.

If a student scores less than 60 points, the exam is considered failed.

The final grade is assigned according to the scale adopted at MEPhI.

The final assessment is the final stage of mastering the core educational program. Preparation for the final assessment helps consolidate, deepen, and systematize knowledge in terms of its application in solving complex, practice-oriented problems related to real-life professional medical practice.

Preparation for the exam should be systematic and conducted regularly. It is important that students properly allocate their time for preparation for the final assessment. When preparing for the final assessment, it is recommended that you familiarize yourself with the list of illnesses (conditions) and exam questions in advance, and effectively utilize the recommended literature, materials, and lecture and class notes compiled during your studies.

Preparing for the exam using various sources is the key to deep and thorough preparation. You should supplement your notes with any missing information on specific aspects, without which a complete answer is impossible.

We recommend preparing a list of the questions that pose the greatest challenges during preparation in advance. You can discuss these with your instructor during overview and orientation lectures, consultations before the final assessment, and while practicing practical skills at the MEPhI Institute of Physics and Biomedical Sciences Simulation Center.

A favorable psychological attitude and a goal-oriented approach to preparation are essential, as well as the ability to present yourself in the best light during the exam.

Exam Reminder :

1. Carefully read the problem statement, focusing on key words.
2. Use a piece of paper to plan your answer, outlining key points and their interrelations. It's also helpful to take brief notes to structure your answer.

3. Pay attention to where you begin your answer. It's best to begin with something you're deeply confident in.

4. Answer the questions in the problem statement.

Students and individuals involved in the final assessment are prohibited from possessing or using communication devices during the assessment.

Students must wear formal attire, a medical gown, a personal stethoscope, and change of shoes.

Students are required to appear for the exam at the time specified in the schedule. Late arrivals will not result in an extension of the exam time.

Students are required to remain silent throughout the exam and refrain from any actions that could distract other students from preparing their answers. Students are not permitted to bring their bags, coats, or other belongings into the examination hall. These items must be left in a designated area.

The University provides classroom space, furniture, and technical equipment for the examination.

During the test phase of the exam, students are permitted to use University-provided personal computers and peripheral devices to the extent necessary for testing.

During the practical skills assessment, students are permitted to use materials and equipment provided for practical skills demonstrations (assignment texts, case histories, equipment, medical instruments, etc.), as well as scrap paper and writing utensils.

During the oral interview, students are permitted to use scrap paper, writing utensils, and exam question papers. During the final assessment, students are strictly prohibited from using any mobile radiotelephone communications or mobile data transmission devices, personal computers, tablet computers, or peripheral devices connected to them.

9. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS

Final assessment is the final stage of mastering the core educational program. Preparation for the final assessment facilitates the consolidation, deepening, and systematization of knowledge as it applies to solving complex, practice-oriented problems similar to real-life professional medical practice.

Final Attestation is conducted in three stages:

I. Computerized testing.

II. Practical skills assessment.

III. Final interview using clinical case tasks

In preparation for the final assessment, teachers provide overview and orientation lectures, consultations with questions and answers, and practical skills training at the PhysBio MEPhi Simulation Center.

For each disease (condition), the student must understand and demonstrate readiness for professional activity.

- Definition, etiology, and pathogenesis;

- Current classification;

- Clinical presentation, clinical features, and possible complications;
- Diagnostic methods for diagnosis and differential diagnosis;
- Treatment and prevention;
- Surgical tactics and surgical intervention options (for diseases requiring surgical treatment);
- Prognosis and assessment of work capacity.
- Syndrome of lesions of various organs and systems, utilizing knowledge gained in related disciplines.

I. Computerized Testing.

Testing determines the student's general competence within the framework of the requirements of the Federal State Educational Standard of Higher Education and the main educational program for specialty 31.05.01 General Medicine. Computerized testing (hereinafter referred to as testing) uses test items from the assessment toolkit for general professional competencies GPC-1, GPC-2, GPC-4, GPC-6, GPC-7, and PC-8, and professional competencies PC-3.1, PC-3-2, PC-3.3, PC-3.4, and PC-3.5.

The content of the tasks is based on the content of the disciplines and practical training courses involved in developing these competencies and specified in the general provisions.

The set of test items for each student consists of 50 questions and is generated by automatic random sampling from assessment fund. This stage is allotted 60 minutes. One point is awarded for each correct answer. Test results are considered passed if 30 or more points are received. In this case, the student is admitted to the next stage of the exam. A student who receives fewer than 30 points is not admitted to the next stage and is subject to expulsion due to an unsatisfactory result on the final Attestation.

Results are communicated to the graduate no later than 30 minutes after the end of the test.

II. Practical Skills Assessment

The second stage involves the student demonstrating practical skills in simulated conditions. The student randomly selects a practical task, which includes three practical skills.

The content of the practical task is based on the lists of practical skills stipulated in the work programs for I internships, as specified in the general provisions. The student is allotted 30 minutes to complete the task.

Practical skills are assessed by members of the examination committee (hereinafter referred to as the EC), which includes specialists in internal medicine, surgical diseases, obstetrics and gynecology. The EC members communicate the results to the student immediately after the completion of the stage.

The results of the second stage are considered successful (passed) if the EC members have no comments on the skills performed. In this case, the student is admitted to the next stage of the examination.

If the EC members have comments on the performance of two skills from the practical task, the student is not admitted to the next stage and is subject to expulsion due to an unsatisfactory result on the final assessment.

III. Final interview using clinical case tasks

The third stage involves the student's response to a questionnaire consisting of two clinical situational tasks, the content of which is based on the disciplines and practical training specified in the

general provisions, and the student's responses to clarifying and additional questions from the EC members.

Students are given up to 0.5 academic hours to prepare for the questionnaire. The duration of the exam response is determined by the nature and number of complex questions and is typically 0.5 academic hours per student.

When preparing for the oral response, students make the necessary notes on the questionnaire questions on sheets of paper issued by the EC Technical Secretariat with the PhysBio MEdPhI stamp.

An "Excellent" score of 90-100 points for the oral response is awarded provided that the student: demonstrates knowledge of the subject matter of the specialty in its entirety, and sufficiently comprehends the disciplines; Independently, in a logical sequence and exhaustively answers all questions in the exam, emphasizing the most essential points; knows how to analyze, compare, classify, generalize, concretize and systematize the studied material, highlighting the main points in it; establish cause-and-effect relationships; clearly formulates answers on issues of diagnosis, treatment and prevention of diseases, medical rehabilitation; economics and management in the healthcare system, the specifics of organizing medical care for certain groups of the population; the use of statistical methods in assessing the health of the population and the activities of medical organizations; demonstrates a deep understanding of the relationship between the anatomical and physiological characteristics of all organs and systems of the body in the age aspect for the purpose of diagnosing and treating major diseases, their prognosis and prevention; formulates an algorithm for working on deep deontological and ethical positions of a physician; is well acquainted with regulatory documents necessary for the practical activity of a physician, and relies on them when solving a situational problem, clearly links the theoretical aspects of the subject with practical tasks.

"Good" (75-89 points) is awarded if the student: demonstrates knowledge of specialized disciplines covering almost the entire syllabus (with gaps in only a few, particularly difficult sections); provides complete answers to the questions independently and partially when prompted; does not always highlight the most important points, but does not make serious errors in their answers; has a knowledge of the basic principles of deontology and possesses clinical reasoning;

"Satisfactory" (60-74 points) is awarded if the student: demonstrates a basic knowledge of specialized disciplines; exhibits difficulty in independently answering questions, uses imprecise wording; makes errors in answering questions regarding the substance of the questions. The student is partially capable of solving situational problems, is not well versed in methodology, and has a poor knowledge of the basic principles of deontology;

"Unsatisfactory" (<60 points) is awarded if the student: has not mastered the required minimum knowledge of specialized disciplines; is unable to answer the questions even with additional prompting from the examiner. If a student scores less than 60 points, the exam is considered failed.

The maximum score is 100, and the minimum is 60 points.

If a student scores less than 60 points, the exam is considered failed.

The final grade is assigned according to the scale adopted at MEdPhI.

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