

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 HTC ИФИБ

Protocol No. 3.1

dated 30.08.2024

ACADEMIC COURSE OUTLINE

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

Semester	Labour input, credits	Total course academic, hours	Lectures, hrs.	Practical sessions, hrs.	Laboratory sessions, hrs.	In the form of practical studies, hrs.	Independent studies, hrs.	Independent studies monitoring, hrs.	Course progress, Exam/Pass-fail exam/Term
2	3	108	0	54	0		54	0	PFE
Total	3	108	0	54	0	0	54	0	

ABSTRACT

1. ACADEMIC COURSE GOALS AND OBJECTIVES

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

3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional competencies:

Competency code and title	Code and title of competency-based rubrics
ОПК-1 [1] – Capable of implementing moral and legal norms, ethical and deontological principles in professional activities.	3-ОПК-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. У-ОПК-1 [1] – Be able to: - find and apply current regulatory legal acts in professional activities; - protect the rights of physicians and patients. В-ОПК-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.
ОПК-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	3-ОПК-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. У-ОПК-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. В-ОПК-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.
УК-8 [1] – Capable of creating and maintaining safe living conditions in everyday life and professional	3-УК-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,

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.	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. 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. 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.
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4. PEDAGOGIC POTENTIAL OF THE COURSE

Pedagogic tracks/objectives	Pedagogic goals (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 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	Unit	1-2	0/10/0	T-2 (10)	10	T-2	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, В-УК-8
2	Unit	3-10	0/32/0	T-10 (30)	30	T-10	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, В-УК-8
3	Unit	11-15	0/12/0	T-15 (10)	10	T-15	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, В-УК-8
	<i>Totals for 2 Semester</i>		0/54/0		50		
	Assessment events for 2 Semester				50	PFE	3-ОПК-1, 3-ОПК-6, У-ОПК-6, В-ОПК-6, В-УК-8

* – 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	54	0
1-2	Unit	0	10	0
1	Введение. Знакомство с предметом и задачами дисциплины.	All		
		0	2	0
		Online		
		0	0	0

1	Санитарный режим больницы	All		
		0	3	0
		Online		
		0	0	0
2	Организация работы поликлиники и стационара.	All		
		0	3	0
		Online		
		0	0	0
2	Медицинская документация	All		
		0	2	0
		Online		
		0	0	0
3-10	Unit	0	32	0
	Антропометрия и термометрия	All		
		0	2	0
		Online		
		0	0	0
	Гигиена больного	All		
		0	2	0
		Online		
		0	0	0
	Транспортировка больных.	All		
		0	3	0
		Online		
		0	0	0
	Лечебное питание	All		
		0	2	0
		Online		
		0	0	0
	Введение лекарственных средств	All		
		0	3	0
		Online		
		0	0	0
	Особенности ухода за больными с заболеваниями органов дыхания	All		
		0	3	0
		Online		
		0	0	0
	Особенности ухода за больными с заболеваниями сердечно-сосудистой системы	All		
		0	3	0
		Online		
		0	0	0
	Особенности ухода за больными с заболеваниями органов пищеварения	All		
		0	4	0
		Online		
		0	0	0
	Особенности ухода за больными с заболеваниями органов мочевого выделения.	All		
		0	4	0
		Online		
		0	0	0
	Уход за больными с различными заболеваниями и	All		

	травмами. Агония. Констатация смерти.	0	3	0
		Online		
		0	0	0
	Особенности организации ухода за больными в хирургических отделениях.	All		
		0	3	0
		Online		
		0	0	0
11-15	Unit	0	12	0
	Оказание первой помощи при отсутствии сознания, при остановке дыхания и кровообращения.	All		
		0	4	0
		Online		
		0	0	0
	Оказание первой помощи при кровотечениях, травмах, ожогах, обморожениях	All		
		0	6	0
		Online		
		0	0	0
	Оказание первой помощи при разных состояниях	All		
		0	2	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

6. EDUCATIONAL TECHNOLOGIES

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	З-ОПК-1	PFE, T-2, T-10, T-15, T-2, T-10
	У-ОПК-1	T-10

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

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, Oslopov 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. Веб-камера 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 сбора 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. Веб-камера 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. Веб-камера 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. Термометры бесконтактные, термометры аналоговые (64-301)

10. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS

Градация и критерии тестовых работ, контрольных работ с развернутым ответом, выполнения домашнего задания и финального теста:

1 - Тестовые работы оцениваются по схеме 1 балл – 1 правильный ответ. Студент не приступал к работе – (-1) балл

2 - Контрольные работы с развернутым ответом оцениваются по схеме: полный ответ – 2 балла, неполный ответ – 1 балл, нет ответа – 0 баллов, студент не приступал к работе – (-2) балла.

3 – Домашнее задание должно быть выполнено всеми студентами для допуска к финальной аттестации. За не вовремя сданную работу следует вычит из финального балла (-1) балл.

4) Критерии оценивания зачета/экзамена

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