

AMENDMENTS AND CHANGES TO THE CURRICULUM IN THE EDUCATIONAL DISCIPLINE

«BIOLOGY»

for the specialty 7-07-0912-01 «Pharmacy»

for 2024/2025 academic year

Amendments and changes	Basis/Reason
1. Changes have been introduced into the Explanatory Note (appendix 1)	Educational Plan for 2024/2025 academic year
2. Changes have been introduced into the Thematic Plan (appendix 2)	Educational Plan for 2024/2025 academic year
3. Changes have been introduced into the Educational Discipline Curricular Chart (appendix 3)	Educational Plan for 2024/2025 academic year
4. Changes have been introduced into the list of practical skills (appendix 4)	Department meeting 31.05.2024 #11
5. The topic «Genomics DNA analysis methods» is supplemented with the following: - HIV immune resistance and the problems of creating an effective vaccine against the	Acts of implementation of the results of scientific research in the educational process

The curriculum is revised and approved at the meeting of Biology Department (protocol # 11 of 31.05.2024)

Head of the department of Biology



V.V. Davydov

APPROVED

Dean of the The Medical Faculty for International Students



O.S. Ishtutin

Changes in the Explanatory Note

Total number of hours for the study of the discipline is 90 academic hours, of which 40 classroom hours and 50 hours of student independent work. Classroom hours according to the types of studies: lectures - 12 hours (including 0 hours of supervised student independent work (SSIW)), laboratory classes (practical classes - 28 hours).

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	semester	Number of academic hours						Form of intermediate assessment
		total	in-class	including			out-of-class self-studies	
				lectures	supervised student independent work	laboratory studies (practical classes and seminars)		
7-07-0912-01 «Pharmacy»	1	90	40	12	0	28	50	examination

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures (incl. SSIW)	practical (laboratory or seminars)
1. Molecular and cell Biology	7,5	16
1.1. Medical Biology as a science, its role in the training of a doctor. Subject, tasks and methods of cytology	-	2
1.2. Structural and functional organization of the cell	1,5	2
1.3. Structural and functional organization of genome	-	2
1.4. Cell cycle	-	2
1.5. The central dogma of molecular biology	1,5	2
1.6. Regulation of gene expression in prokaryotes and eukaryotes	1,5	2
1.7. Genomics. Methods of DNA analysis	-	2
1.8. Genetic Engineering	1,5	2
1.9. Postgenomic medicine	1,5	
2. General and Medical Genetics	1,5	10
2.1. Basic laws of inheritance. Gene interactions	-	2
2.2. Genetic linkage. Biology and genetics of sex	-	2
2.3. Variability. Mutagenesis. Carcinogenesis	1,5	2
2.4. Population genetics	-	2
2.5. Human genetics	-	2
3. Developmental biology	1,5	2
3.1. Reproduction of living matter	1,5	2
4. Medical parasitology	1,5	-
4.1. Parasitism as a form of ecological relationships in nature	1,5	-
Total number of hours	12	28

ACADEMIC DISCIPLINE CURRICULAR CHART

Section, topic #	Section (topic) name	Number of hours		Supervised student independent work	Practical skills	Form of control	
		lectures	practical (laboratory or seminars)			of practical skills	of current / intermediate assessment
1 semester							
	Lectures						
1.	Molecular and cell Biology	7,5					
1.2	The flow of substance and energy passing through the cell	1,5				Reports, electronic tests, conference reports, publication of articles, reports	Reports, electronic tests, conference reports, publication of articles, reports
1.5	The central dogma of molecular biology	1,5				Reports, electronic tests, conference reports, publication of articles, reports	Reports, electronic tests, conference reports, publication of articles, reports
1.6	Gene expression. Epigenetics	1,5				Reports, electronic tests, conference reports, publication of articles, reports	Reports, electronic tests, conference reports, publication of articles, reports
1.8	Genetic Engineering	1,5				Reports, electronic tests, conference reports, publication of articles, reports	Reports, electronic tests, conference reports, publication of articles, reports
1.9	Postgenomic Medicine	1,5				Reports, electronic tests, conference reports, publication of articles, reports	Reports, electronic tests, conference reports, publication of articles, reports
2.	General and Medical Genetics	1,5					
2.3	Mutagenesis. Carcinogenesis	1,5				Reports, electronic tests, conference reports, publication of articles, reports	Reports, electronic tests, conference reports, publication of articles, reports
3.	Developmental Biology	1,5					

3.1	Human reproduction. Ways to overcome infertility	1,5					Reports, electronic tests, conference reports, publication of articles, reports
4.	Medical parasitology	1,5					
4.1	Parasitism as a form of ecological relationships in the nature	1,5					Reports, electronic tests, conference reports, publication of articles, reports
		12					
	Practical (laboratory) lessons						
1.	Molecular and cell Biology	16	28				
1.1	Medical Biology as a science, its role in the training of a doctor. Subject, tasks and methods of cytology	2	3	Work with optical devices (magnifying glass, light microscope)	Laboratory work	Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense	
1.2	Structural and functional organization of the cell	2	3			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense	
1.3	Structural and functional organization of genome	2	3			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense	
1.4	Cell cycle	2	3			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense	
1.5	The central dogma of molecular biology	2	4			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense	
1.6	Regulation of gene expression in prokaryotes and eukaryotes	2	4			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense	

1.7	Genomics. Methods of DNA analysis		2	4			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
1.8	Genetic Engineering		2	4	Solving problems in molecular biology	Control work*	Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
2.	General and Medical Genetics		10	19			
2.1	Basic laws of inheritance. Gene interactions		2	3			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
2.2	Genetic linkage. Biology and genetics of sex		2	4			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
2.3	Variability. Mutagenesis. Carcinogenesis		2	4			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
2.4	Population genetics		2	4			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
2.5	Human genetics		2	4	Solving problems in general and medical genetics	Control work*	Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
3	Developmental Biology		2	3			
3.1	Reproduction of living matter. Human reproduction. Ways to overcome infertility		2	3			Interview, test, accounts of laboratory classes with oral defense, accounts of practical exercises with oral defense
		12	28	50			Examination