

AMENDMENTS AND CHANGES TO THE CURRICULUM IN THE EDUCATIONAL DISCIPLINE

«Pharmaceutical botany»

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

The curriculum is revised and approved at the department meeting of Pharmacy organization (protocol 13 of 13.06. 2024)

Head of the department of Pharmacy organization



O.V. Muskina

APPROVED

Dean of the Faculty of Pharmacy



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Changes in the Explanatory Note

Total number of hours for the study of the discipline is 230 academic hours, of which 135 classroom hours and 95 hours of student independent work. Classroom hours according to the types of studies: lectures - 24 hours (including 6 hours of supervised student independent work (SSIW)), laboratory classes - 111 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	2	120	66	12	3	54	54	credit
Pharmacy	3	110	69	12	3	57	41	exam
Total		230	135	24	6	111	95	

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures (incl. SSIW)	practical (laboratory or seminars)
1. Systematics of lower and higher archegoniates	1,5	15
1.1.Introduction to pharmaceutical botany. Algae. Fungi	-	6
1.2.Higher archegonial plants	1.5	9
2. Morphology of plants	3	15
2.1.Morphology of plants vegetative organs	1.5	6
2.2.Morphology of plants generative organs	1.5	9
3. Flowering plants systematics	7,5	24
3.1.Systematic review of class Magnoliopsida	6	18
3.2.Systematic review of class Liliopsida	1,5	6
4. Cytology and histology of plants	6	30
4.1.The structure of plant cell, chemical substances and osmotic properties	1,5	12
4.2.Plant tissues	4,5	18
5. Anatomy of plants	6	27
5.1.Anatomy of stems and rhizoma	3	9
5.2.Anatomy of roots and leaves	3	6
5.3.Microscopic diagnostic signs of the vegetative organs of higher plants	-	12
Total hours	24	111

ACADEMIC DISCIPLINE CURRICULAR CHART

Appendix № 3

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
	2 semester						
	Lectures						
1.	Division Bryophyta, Lycopodiophyta, Equisetophyta, Polypodiophyta.	1.5					
2.	Morphology of the vegetative organs. Root. Stem.	1.5					
3.	Morphology of the generative organs. Flower. Inflorescence.	1.5					
4.	Systematic review of subclasses Magnoliidae, Ranunculidae	1.5					
5.	Systematic review of subclass Dilleniidae	1.5					
6.	Systematic review of subclass Rosidae			1.5			Test
7.	Systematic review of subclass Lamniidae.	1.5					
8.	Systematic review of class Liliopsida			1.5			Test
	Practical (laboratory or seminar) lessons						
1.	Introduction to pharmaceutical botany. Algae.	3		3	Skills in correct reading and writing in Latin the names of	Interview, test	

2.	Kingdom of Fungi. Division Lichenes.			3	taxons of the plant world and species names of plants	Interview, test	
3.	Division Bryophyta, Lycopodiophyta,	3		3	Skills in correct reading and writing in Latin the names of taxons of the plant world and species names of plants	Interview, test	
4	Division Equisetophyta, Polypodoiphyta.	3		3	Skills in correct reading and writing in Latin the names of taxons of the plant world and species names of plants	Interview, test,	
5	Division Pinophyta.	3		3	Skills in correct reading and writing in Latin the names of taxons of the plant world and species names of plants	Interview, test	
6.	Morphology of plants vegetative organs. Root. Stem.	3		3	Morphological description of a plant	Interview, practical work with a mark	
7.	Morphology of plants vegetative organs. Leaf.	3		3	Morphological description of a plant	Interview, practical work with a mark	
8.	Morphology of plants generative organs. Flower. Inflorescence.	3		3	Morphological description of a plant	Interview, practical work with a mark	
9.	Morphology of plants generative organs. Fruit. Seed.	3		6	Morphological description of a plant	Interview, practical work with a mark	

10	The final lesson «Systematics of lower and higher archegoniates. Morphology of plants».	3			Morphological description of a plant	Interview, practical work with a mark	Colloquium*
11	Systematic review of subclasses Magnoliidae, Ranunculidae.	3		3			
12	Systematic review of subclasses Caryophyllidae, Hamamelididae.	3		3			
13	Systematic review of subclass Dilleniidae.			3	Establishment of systematic position of plants	Interview, practical work with a mark	
14	Systematic review of subclass Rosidae.	3		3	Establishment of systematic position of plants	Interview, practical work with a mark	
15	Systematic review of subclass Lamniidae.	3		3	Establishment of systematic position of plants	Interview, practical work with a mark	
16	Systematic review of subclass Asteridae.	3		3			
17	Systematic review of class Liliopsida.	3		6			
18	The final lesson «Systematics of Flowering plants».	3			Skills in correct reading and writing in Latin the names of taxons of the plant world and species names of plants		Interview, credit*
3 semester							
Lectures							
1.	The structure of plant cell organelles.	1,5					
2.	Classification of plant tissues. Meristema and parenchyma tissues.	1,5					
3	Secretory structures of plants. Mechanical		1,5				Test

	tissues						
4	Conductive tissues. Fibrovascular bundles.	1,5					
5	Anatomy of herbaceous stem.	1,5					
6	Anatomy of woody plants stem.	1,5					
7	Anatomy of a root.	1,5					
8	Anatomy of leaf			1,5			Test
	Practical (laboratory or seminar) lessons						
1.	The structure of the plant cell, cell wall and membranes.			3	Preparation and analysis of temporary microparimeters of vegetative organs of plants	Interview, visual laboratory	
2.	The structure of plant cell organelles.	3		3	Performing histochemical reactions and interpreting results to determine chemical components of plant cell and plant tissues	Interview, visual laboratory	
3.	Plant cell chemical substances.	3		3	Performing histochemical reactions and interpreting results to determine chemical components of plant cell and plant tissues	Interview, visual laboratory	
4.	The final lesson «Features of the structure, chemical substances and osmotic properties».	3					Colloquium*
5.	Classification of plant tissues. Meristema and parenchyma tissues.	3		3	Preparation and analysis of temporary microslide of plants vegetative organs	Interview, visual laboratory work, practical work with marking, examination	
6.	Covering tissues.	3		3	Preparation and	Interview, visual	

7.	Secretory tissues.	3		2	analysis of temporary microslide of plants vegetative organs	laboratory work, practical work with marking, examination	
8.	Mechanical tissues.	3		2			
9.	Conductive tissues. Fibrovascular bundles.			3	Preparation and analysis of temporary microslide of plants vegetative organs	Interview, laboratory work, practical work with marking, examination	
10	The final lesson: «Plant tissues».	3					Colloquium*
11	Anatomy of herbaceous plants stem.			3	Diagnosis of vegetative organs by microscopic features		
12	Anatomy of woody plants stem.	3		3	Diagnosis of vegetative organs by microscopic features		
13	Anatomy of rhizomes.	3		3	Diagnosis of vegetative organs by microscopic features		
14	Anatomy of root.	3		2	Diagnosis of vegetative organs by microscopic features		
15	Anatomy of leaf	3		2	Diagnosis of vegetative organs by microscopic features		
16	Microscopic diagnostic signs of vegetative organs of higher plants. Herbae, leaf, flower	3		4	Diagnosis of vegetative organs by microscopic features Carrying out a competent botanical	Assessment of the quality of botanical drawings, interview	

					drawing detailing the most important diagnostic features of the vegetative organs of plants		
17	Microscopic diagnostic signs of vegetative organs of higher plants. Fruit, cortex, rhizoma, radix		3	Diagnosis of vegetative organs by microscopic features Carrying out a competent botanical drawing detailing the most important diagnostic features of the vegetative organs of plants	Assessment of the quality of botanical drawings, interview		
18	Educational research work of students «Study of anatomical structure of vegetative organs of plants». Microscopic diagnostic signs of vegetative organs of higher plants	3		Diagnosis of vegetative organs by microscopic features	Interview and colloquium with marks		
19	The final lesson «Anatomy of a plant».	3				Colloquium*	
	Exam					Exam	

LIST OF PRACTICAL SKILLS

Practical skill	Form of control
Preparation and analysis of temporary microparameters of vegetative organs of plants	Interview, visual laboratory work, practical work with marking, examination
Performing histochemical reactions and interpreting results to determine chemical components of plant cell and plant tissues	Interview, visual laboratory, examination
Morphological description of a plant	Interview, practical work with a mark, examination
Diagnosis of vegetative organs by microscopic features	Interview and colloquium with marks, examination
Establishment of systematic position of plants	Interview, practical work with a mark, credit
Skills in correct reading and writing in Latin the names of taxons of the plant world and species names of plants	Interview, credit
Carrying out a competent botanical drawing detailing the most important diagnostic features of the vegetative organs of plants	Assessment of the quality of botanical drawings, interview