

УТВЕРЖДАЮ
Заведующий
кафедрой Озеров А.А..
ФГБОУ ВО ВолГГМУ
Минздрава России



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« 28 » августа 2024 г.

CALENDAR AND THEMATIC PLAN
of laboratory and practical classes
for the 4th semester of the 2024- 2025 academic year
in botany
for 2nd year students of the Faculty of Pharmacy

N	DATE	The topic of classes included in the thematic block	BASIC QUESTIONS TO PREPARE
1.	01.02.2025-07.02.2025	Higher plants.	1. The divisions of Bryophytes. General characteristics, taxonomy. The importance of Bryophytes in nature and human life. 2. General characteristics of the Marchantia polymorpha. 3. Characteristic features of the class of Bryopsida. 4. Sphagnum: structural features. 5. Polytrichum: structure, development cycle.
		The divisions of Bryophytes. Description and definition of representatives of the classes: Hepaticopsida and Bryopsida. Biology of reproduction	
2.	08.02.2025-14.02.2025	Division Lycopodiophyta	1. Lycopodiophyta. General characteristics on the example of the Lycopodium clavatum, its medical significance. 2. Life cycle of Lycopodiophyta on the example of Lycopodium clavatum. 3 Peculiarities of the structure of reproductive organs of Lycopodiophyta.
		Morphological and microscopic characters of Lycopodiophyta	
3.	15.02.2025-21.02.2025	Divisions:, Equisetophyta	2. Equisetophyta, structure, life cycle and medical significance. 3. Ferns. Features of the structure and function of vegetative organs. The medical significance of ferns. 4. General characteristics and life cycle of ferns on the example of the Dryopteris filix-mas.
		Division Polypodiophyta (Fern).	
4.	22.02.2025-28.02.2025	Division of Gymnosperms. Biology of development	1. General characteristics of the division of Gymnosperms. Classification. 2. The life cycle of gymnosperms on the example of

		Division of Gymnosperms. Classification. Description of representatives of the families: Pinaceae, Cupressaceae, Ephedraceae.	<p>the <i>Pinus sylvestris</i>.</p> <p>3. Morphological features of Pinaceae on the example of <i>Picea abies</i>, <i>Abies nephrolepis</i>, <i>Larix sibirica</i>.</p> <p>4. Morphological features of the Cupressaceae on the example of <i>Juniperus sabina</i> and <i>Juniperus communis</i>.</p> <p>5. Morphological features of the Ephedraceae on the example of <i>Ephedra distachya</i>.</p> <p>6. The use of coniferous products in medical practice.</p>
5.	01.03.2025 07.03.2025	<p>The concluding thematic block on the topic: "FUNGI. ALGAE. HIGHER SPORE PLANTS, SEED PLANTS". Questions for preparation for the final lesson are on the educational portal.</p> <p>Morphological and microscopic signs of fungi, algae, higher spore and seed plants (assessment of mastering practical skills of working with a microscope and herbarium)</p>	
6.	08.03.2025 14.03.2025	<p>The main families of the subclass Ranunculidae are: Ranunculaceae and Papaveraceae</p> <p>The main families of the subclass Ranunculidae is: Berberidaceae.</p>	<p>1. General characteristics of representatives of the Ranunculaceae.</p> <p>2. General characteristics of representatives of the Papaveraceae.</p> <p>3. Formulas and diagrams of flowers of representatives of the Ranunculaceae and Papaveraceae.</p> <p>4. Other families of the subclass Ranunculidae: Berberidaceae. General characteristics.</p> <p>5. The importance of representatives of the subclass Ranunculidae in medicine and the national economy.</p>
7.	15.03.2025 21.03.2025	<p>The main families of the Caryophyllidae subclass: Polygonaceae</p> <p>The main families of the Caryophyllidae subclass: Caryophyllaceae.</p>	<p>1. The systematic position of the families of the Caryophyllidae subclass.</p> <p>2. General characteristics of the Caryophyllaceae.</p> <p>3. General characteristics of the Polygonaceae.</p> <p>4. The practical significance of representatives of the Polygonales and Caryophyllales orders in medicine and pharmacy</p>
8.	24.03.2025- 28.03.2025	<p>The main families of the Dilleniidae subclass are Cruciferous</p> <p>The main families of the Dilleniidae subclass are Malvaceae, Urticaceae.</p>	<p>1. General characteristics of representatives of the Cruciferous, Malvaceae, Urticaceae. Formulas and diagrams of flowers of these families.</p> <p>3. Other families of the Dilleniidae subclass: Theaceae, Violaceae. General characteristics.</p> <p>4. The importance of representatives of the Dilleniidae subclass in medicine and the national economy.</p>
9.	29.03.2025 04.04.2025	The main families of the Dilleniidae subclass are Ericaceae.	<p>1. General characteristics of representatives of the Ericaceae, Passifloraceae, Cucurbitaceae. Formulas and diagrams of flowers of these families.</p> <p>3. Other families of the Dilleniidae subclass: Clusiaceae.</p>

		The main families of the Dilleniidae subclass are Cucurbitaceae, Passifloraceae.	General characteristics. 4. The importance of representatives of the Dilleniidae subclass in medicine and the national economy.
10.	05.04.2025 11.04.2025	The concluding thematic block on the topic: "SYSTEMATICS OF FLOWERING PLANTS - 1" Questions for preparation for the final lesson are on the educational portal. Identification of plants of the Ranunculidae, Dilleniidae, Caryophyllidae, Hamamelididae subclasses.	
11.	12.04.2025 18.04.2025	The main families of the Rosidae subclass are: Rosaceae -1 The main families of the Rosidae subclass are: Rosaceae -2	1. The systematic position of the Rosaceae family. 2. General characteristics of representatives of the Rosaceae family. 3. Comparative characteristics of subfamilies: Spiraeoideae, Prunoideae, Maloideae, Rosoideae. 4. Formulas and diagrams of flowers of the Rosaceae family. 5. The importance of Rosaceae in medicine and the national economy. 6. Other families of the Rosida subclass: Myrtaceae, Rutaceae, Hippocastanaceae, Anacardiaceae, Linaceae. General characteristics.
12.	19.04.2025 25.04.2025	The main families of the Rosidae subclass are: Fabaceae The main families of the Rosidae subclass are: Umbelliferae.	1. General characteristics of representatives of the Fabaceae family. Features of the structure of the corolla of the flower. 2. Subfamilies of the Fabaceae family: Mimosoideae, Caesalpinioideae, Faboideae. Features of the structure. Formulas and diagrams of flowers. 3. General characteristics of representatives of the Celery family. Formulas and diagrams of flowers. The structure of the fruit of representatives of the Umbelliferae family. 4. The importance of representatives of the Fabaceae and Umbelliferae families in medicine and the national economy. 5. Other families of the Rosidae subclass: Elaeagnaceae, Rhamnaceae, Araliaceae, Valerianaceae. General characteristics.
13.	26.04.2025- 02.05.2025	The main families of the Lamiidae subclass 1 The main families of the Lamiidae subclass 2	1. General characteristics of representatives of the Boraginaceae family. Formulas and diagrams of flowers. 2. General characteristics of representatives of the Solanaceae family. Formulas and diagrams of flowers. 3. General characteristics of the representatives of the Lamiaceae family. Formulas and diagrams of flowers. 4. General characteristics of the representatives of the Scrophulariaceae family. Formulas and diagrams of flowers.

14.	03.05.2025-09.05.2025	The main families of the subclass Asteridae are: Asteraceae -1	1. General characteristics of representatives of the Asteraceae family.
		The main families of the subclass Asteridae are: Asteraceae - 2	2. The main types of flowers of representatives of the Asteraceae family. Formulas and diagrams of flowers. 3. Inflorescences of representatives of the Asteraceae family. Combinations of flower types in inflorescences. 4. Characteristics of the subfamilies of the Asteraceae family: Asteroideae and Lactucoideae. Their main representatives. 5. The importance of representatives of the Asteraceae family in medicine and the national economy.
15.	10.05.2025-16.05.2025	The main families of the Liliidae subclass 1	1. General characteristics of representatives of the Liliaceae family. Formulas and diagrams of flowers.
		The main families of the Liliidae subclass 2.	2. General characteristics of representatives of the Alliaceae family. Formulas and diagrams of flowers. 3. General characteristics of representatives of the Amaryllidaceae family. Formulas and diagrams of flowers. 4. General characteristics of representatives of the Asparagaceae family. Formulas and diagrams of flowers.
16.	17.05.2025-22.05.2025	The main families of the Liliidae subclass 3	1. Other families of the Liliidae subclass: Convallariaceae, Dioscoreaceae, Orchidaceae, Poaceae, Cyperaceae. General characteristics.
		The main families of the Liliidae subclass 4	2. The importance of representatives of the Liliidae subclass in medicine and the national economy.
17.	23.05.2025-30.05.2025	The concluding thematic block on the topic: "SYSTEMATICS OF FLOWERING PLANTS - 2" Questions for preparation for the final lesson are on the educational portal.	
		Identification of plants of the Rosidae, Lamiidae, Asteridae, and Liliidae subclasses	
18.	31.05.2025-06.06.2025	Control intermediate testing	
		Final lesson	