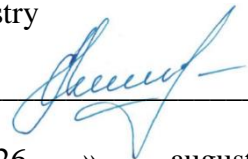


**APPROVE**

Head of the Department of Medical Biology and  
Chemistry

  
\_\_\_\_\_ Hennadii STEPANOV

« 26 » august 2024

**TOPICAL SCHEDULE OF PRACTICAL CLASSES**

Biological chemistry for the 3d year higher education applicants of pharmacy faculty for 2024/2025 study year

Themes	Number of hours					
	Total	including				
		lectures	seminars	practical classes	laboratories	Independent work
<b>Content module 1.</b> <b>General patterns of metabolism</b>						
Theme 1. General characteristics, properties of enzymes.	5	1	0	2	0	2
Theme 2. Mechanism of action of enzymes. Kinetics of catalysis.	5	1	0	2	0	2
Theme 3. Citric acid cycle.	5	1	0	2	0	2
Theme 4. Molecular mechanisms of tissue respiration. Peroxide and microsomal oxidation.	5	1	0	2	0	2
<i>Total by content module 1</i>	20	4	0	8	0	8
<b>Content module 2.</b> <b>Metabolism of carbohydrates, lipids, amino acids and its regulation. Molecular biology.</b>						
Theme 5. Intracellular catabolism of glucose.	5	1	0	2	0	2
Theme 6. Alternative pathways of monosaccharide metabolism.	5	1	0	2	0	2
Theme 7. Gluconeogenesis. Glycogen biosynthesis. Regulation of carbohydrate metabolism.	6	2	0	2	0	2
Theme 8. The role of lipids in the structure and functions of biological membranes. Oxidation of fatty acids and glycerol.	6	2	0	2	0	2

Theme 9. Biosynthesis of glycerol, fatty acids, glycerides and phospholipids.	4	1	0	2	0	1
Theme 10. Cholesterol metabolism. Metabolism of acetoacetic acid.	4	1	0	2	0	1
Theme 11. Ways of formation and maintenance of the pool of amino acids in the body. Deamination, decarboxylation, transamination of amino acids.	4	1	0	2	0	1
Theme 12. Ammonia metabolism in the human body.	4	1	0	2	0	1
Theme 13. Amino acids nitrogen-free skeleton metabolism in the body. Hereditary enzymopathies of amino acid metabolism.	4	1	0	2	0	1
Theme 14. Catabolism of purine and pyrimidine nucleotides.	4	1	0	2	0	1
Theme 15. Anabolism of purine and pyrimidine nucleotides.	4	1	0	2	0	1
Theme 16. Biosynthesis of nucleic acids.	4	1	0	2	0	1
Theme 17. Protein biosynthesis in ribosomes.	4	1	0	2	0	1
Theme 18. Fundamentals of molecular genetics.	4	1	0	2	0	1
Intermediate control for the semester.	8	0	0	4	0	4
<i>Total by content module 2</i>	70	16	0	32	0	22
<b>Content module 3.</b>						
<b>Biochemistry of intercellular communications</b>						
Theme 19. Hormones general concept. Hypothalamus and pituitary gland hormones.	5	1	0	2	0	2
Theme 20. Thyroid and parathyroid glands hormones. Regulation of phosphorus-calcium metabolism.	5	1	0	2	0	2
Theme 21. Steroid hormones.	5	1	0	2	0	2
Theme 22. Pancreas and adrenal medulla hormones. Local hormones.	5	1	0	2	0	2
<i>Total by content module 3</i>	20	4	0	8	0	8
<b>Content module 4.</b>						
<b>Biochemistry of tissues and physiological functions</b>						
Theme 23. Digestion of carbohydrates, lipids, proteins, nucleoproteins in the gastrointestinal tract. Water-soluble vitamins B1, B2, B6, PP.	4	1	0	2	0	1
Theme 24. Water-soluble vitamins B1, B2, B6, PP.	4	1	0	2	0	1
Theme 25. Water-soluble vitamins C, biotin, folic acid, B12, pantothenic acid.	3	0	0	2	0	1
Theme 26. Fat-soluble vitamins.	4	1	0	2	0	1
Theme 27. Biochemical characteristics and functions of blood. Blood	4	1	0	2	0	1

