

**Thematic plan of practical lessons
in the discipline " Medical Biochemistry "
for students of the educational program
specialist degree
in the specialty of training 33.05.01 Pharmacy,
direction (profile) Pharmacy,
form of study full - time
for autumn semester the 2023-2024 academic year**

№	Thematic blocks	Hours (academic)
1.	1. Introduction to biological chemistry.	01.09.23-
	2. Methods of quantitative determination of protein in blood serum.	07.09.23
2.	1. Structural organization of proteins.	08.09.23-
	2. Physico-chemical properties of proteins.	14.09.23
3	1. Interaction of protein with ligands.	15.09.23-
	2. The relationship of the structure of proteins with their function on the example of hemoglobin and myoglobin, collagen and immunoglobulins.	21.09.23
4	1. Enzymes, biological role.	22.09.23-
	2. Mechanism and features of enzymatic catalysis.	28.09.23
5	1. Kinetics of enzymatic reactions.	29.09.23-
	2. General properties of enzymes.	05.10.23
6	1. Regulation of enzyme activity as a molecular basis for the regulation of metabolism.	06.10.23-
	2. Regulation of intracellular metabolism by external signals.	12.10.23
7	COLLOQUIUM: Proteins and enzymes	13.10.23-
	Part 1: Proteins Part 2: Enzymes	19.10.23
8	1. Energy metabolism: ways of ATP formation.	20.10.23-
	2. Biological oxidation.	26.10.23
9	1. The general path of catabolism.	27.10.23-
	2. Oxidative decarboxylation of pyruvate. Citric acid cycle (TCA).	02.11.23
10	1. Structure of carbohydrates.	03.11.23-
	2. Classification and functions of carbohydrates.	09.11.23
11	1. Glucose catabolism.	10.11.23-
	2. Aerobic and anaerobic oxidation of glucose.	16.11.23
12	1. Glucose anabolism.	17.11.23-
	2. Gluconeogenesis.	23.11.23
13	COLLOQUIUM: Energy metabolism. Common catabolic pathways.	24.11.23-
	Structure and functions of carbohydrates. Part 1: Energy metabolism. Common catabolic pathways. Part 2: Structure and functions of carbohydrates	30.11.23
14	1. Lipids: structure, biological role, classification.	01.12.23-

	2 Digestion and absorption of lipids of food.	07.12.23
15	1. Oxidation of fatty acids and degradation of glycerol.	08.12.23-
	2. Synthesis of fatty acids and lipids.	14.12.23
16	1. Metabolism of ketone bodies.	15.12.23-
	2. Ketoacidosis.	21.12.23
17	COLLOQUIUM: Chemistry and lipid metabolism. Part 1: Chemistry of lipids.	22.12.23-
	Part 2: Metabolism of lipids.	28.12.23
	Intermediate certification	exam
	Total	101

-Subject

² - essential content (if necessary)

Considered at the meeting of the department of Theoretical biochemistry with a course of clinical biochemistry "10" May 2023, protocol № 16

Head of the Department



O.V. Ostrovskij.