

LABORATORY CLASSES

Plan of laboratory classes for the international students of **pharmaceutical faculty** studying biochemistry in
English 2025 – 2026 year

Spring semester

№	Date	Topic
1	09.02-13.02	Introduction to practical work. Introduction to biochemistry. The structure of amino acids and peptides. Determination of the protein content in the biological fluids. « <i>Biochemistry: manual for...</i> » (p.4-5)
2	16.02-20.02	Structure and functions of proteins. Physical and chemical properties of proteins/ Mechanisms of protein sedimentation. « <i>Biochemistry: manual for...</i> » (p.5-9).
3	23.02-27.02	Methods of separation, isolation and purification of proteins. Compound proteins. Gel filtration. « <i>Biochemistry: manual for...</i> » (p.7-8).
4	02.03-06.03	Enzymes, classification, structure, properties. Effect of various factors on enzyme activity. « <i>Biochemistry: manual for...</i> » (p.9-10)
5	09.03-13.03	Regulation of enzyme activity. Determination of enzyme activity. « <i>Biochemistry: manual for...</i> » (p.11-12);
6	16.03-20.03	COLLOQUIUM “THE CHEMISTRY OF PROTEINS. ENZYMES” Questions for preparation – see « <i>Biochemistry: manual for...</i> » (p.13)
7	23.03-27.03	Introduction to metabolism. The central metabolic pathways: oxidative decarboxylation of pyruvate, citric acid cycle. Evaluation of TCA cycle functioning. « <i>Biochemistry: manual for...</i> » (p.14-15);
8	30.03-03.04	Introduction to bioenergetics. Oxidative phosphorylation. Photosynthetic phosphorylation (light-dependent reactions). Pathways of oxygen utilization by cells. Studying of oxidative phosphorylation. « <i>Biochemistry: manual for...</i> » (p.16-17);
9	06.04-10.04	Digestion of carbohydrates. Metabolism of glycogen. Detection of alcoholic fermentation products « <i>Biochemistry: manual for...</i> » (p.17-18);
10	13.04-17.04	Aerobic and anaerobic pathways of glucose oxidation. Metabolism of pyruvate. Gluconeogenesis. Determination of pyruvate in the urine. « <i>Biochemistry: manual for...</i> » (p.18-19);
11	20.04-24.04	Pentose phosphate and glucuronic pathways of glucose metabolism. Photosynthesis (the dark phase). Metabolism of exogenous ethanol. Regulation of blood glucose level. Determination of blood glucose « <i>Biochemistry: manual for...</i> » (p.20-21);
12	27.04-01.05	COLLOQUIUM “INTRODUCTION TO METABOLISM AND BIOENERGETICS. CARBOHYDRATE METABOLISM. PHOTOSYNTHESIS.” Questions for preparation – see « <i>Biochemistry: manual for...</i> » (p.22-23)
13	04.05-08.05	Lipid metabolism. Digestion and re-synthesis. Transport of exogenous lipids. Evaluation of lipase activity. « <i>Biochemistry: manual for...</i> » (p.23-24);
14	11.05-15.05	Lipid transport in blood. Cholesterol metabolism. Storage and mobilization of lipids. Determination of plasma beta-lipoproteins. « <i>Biochemistry: manual for...</i> » (p.24-25);
15	18.05-22.05	Intracellular metabolism of fatty acids. Ketone bodies. Determination of cholesterol in serum. « <i>Biochemistry: manual for...</i> » (p.26-27);
16	25.05-29.05	COLLOQUIUM “LIPID METABOLISM” Questions for preparation – see « <i>Biochemistry: manual for...</i> » (p.29)
17	01.06-05.06	Control over practical skills of biochemical analysis: color reactions for proteins and amino acids. « <i>Biochemistry: manual for...</i> » (p.30-31)
18	08.06-12.06	Credit.

Exam session 15.06.2026-28.06.2026

Head of the department of biochemistry,
professor



A.D. Tahanovich