

# LABORATORY CLASSES

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

## Spring semester

N	Date	Topic
1	09.02-13.02	Digestion and absorption of proteins. Analysis of gastric juice « <i>Biochemistry: manual for...</i> » (p.27-29); <i>textbook 1</i> (p.64-66); <i>textbook 2</i> (p. 213-216); <i>textbook 3</i> (p. 242-249); <i>lecture material</i> .
2	16.02-20.02	Intracellular amino acid metabolism. Detoxification of ammonia. Determination of nonprotein nitrogen in blood and urea in urine. « <i>Biochemistry: manual for...</i> » (p.29-31); <i>textbook 1</i> (p.67-70); <i>textbook 2</i> (p. 216-231); <i>textbook 3</i> (p. 242-264); <i>lecture material</i> .
3	23.02-27.02	Nucleoproteins metabolism. Determination of uric acid in the urine. « <i>Biochemistry: manual for...</i> » (p.31-32); <i>textbook 1</i> (p.77-85); <i>textbook 2</i> (p.255-268); <i>textbook 3</i> (p. 286-303); <i>lecture material</i> .
4	02.03-06.03	Matrix biosyntheses (synthesis of dna, rna, protein). Analysis of yeast nucleoprotein hydrolysis products « <i>Biochemistry: manual for...</i> » (p.32-33; <i>textbook 1</i> (p.85-90); <i>textbook 2</i> (p. 270-299); <i>textbook 3</i> (p. 303-415); <i>lecture material</i> .
5	09.03-13.03	<b>COLLOQUIUM “METABOLISM OF SIMPLE PROTEINS AND NUCLEOPROTEINS. SYNTHESIS OF DNA, RNA AND PROTEINS”</b> Questions for preparation – see « <i>Biochemistry: manual for...</i> » (p.33-34)
6	16.03-20.03	Hormones. General characteristic and peculiarities of biological action. Qualitative reactions for hormones. « <i>Biochemistry: manual for...</i> » (p.34-36); <i>textbook 1</i> (p.91-96); <i>textbook 2</i> (p. 301-307); <i>textbook 3</i> (p. 434-473); <i>lecture material</i> .
7	23.03-27.03	Biochemistry of hormones. Glucose tolerance test. « <i>Biochemistry: manual for...</i> » (p.37-39); <i>textbook 1</i> (p.96-100); <i>textbook 2</i> (p. 308-338); <i>textbook 3</i> (p. 434-455); <i>lecture material</i> .
8	30.03-03.04	Biochemistry of the liver. Determination of total bilirubin in serum. « <i>Biochemistry: manual for...</i> » (p.39-40); <i>textbook 1</i> (p.101-109); <i>textbook 2</i> (p. 245-254, 398-414); <i>textbook 3</i> (p. 270-285); <i>lecture material</i> .
9	06.04-10.04	Integration of metabolism. Effect of hormones on the blood glucose content. « <i>Biochemistry: manual for...</i> » (p.40-41); <i>textbook 1</i> (p.105-109); <i>textbook 3</i> (p. 231-236)
10	13.04-17.04	<b>COLLOQUIUM “HORMONES. BIOCHEMISTRY OF THE LIVER. INTEGRATION OF METABOLISM.”</b> Questions for preparation – see « <i>Biochemistry: manual for...</i> » (p. 41-42)
11	20.04-24.04	Blood proteins. Respiratory function of blood. Hemoglobinoses. Studying of serum buffer properties. Determination of chlorides in serum « <i>Biochemistry: manual for...</i> » (p.42-43); <i>textbook 1</i> (p.152-156); <i>textbook 2</i> (p. 380-388); <i>textbook 3</i> (p. 580-597, 609-625); <i>lecture material</i> .
12	27.04-01.05	Blood clotting system. Separation of serum proteins by electrophoresis on acetylcellulose. Determination of calcium in plasma. « <i>Biochemistry: manual for...</i> » (p.44-47); <i>textbook 1</i> (p.73-76, 154-456); <i>textbook 2</i> (p. 389-397); <i>textbook 3</i> (p. 598-607); <i>lecture material</i> .
13	04.05-08.05	Biochemistry of nutrition. Role of proteins, fats, carbohydrates, vitamins. Qualitative reactions for vitamins. Quantitative determination of vitamin C. « <i>Biochemistry: manual for...</i> » (p.47-50); <i>textbook 1</i> (p.110-120); <i>textbook 2</i> (p. 350-378); <i>textbook 3</i> (p.474-497); <i>lecture material</i> .
14	11.05-15.05	Biochemistry of nutrition. Mineral substances. Regulation of water and mineral balance determination of sodium and potassium in serum. « <i>Biochemistry: manual for...</i> » (p.50-51); <i>textbook 1</i> (p.121-128); <i>textbook 2</i> (p. 342-346); <i>textbook 3</i> (p.481-497); <i>lecture material</i> .
15	18.05-22.05	<b>COLLOQUIUM “BIOCHEMISTRY OF NUTRITION. BIOCHEMISTRY OF THE BLOOD WATER-MINERAL METABOLISM.”</b> Questions for preparation – « <i>Biochemistry: manual for...</i> » (p. 51-53)
16	25.05-29.05	Biochemistry of the urine. Determination of the urine physiological and pathological components. « <i>Biochemistry: manual for...</i> » (p.53-56). <i>See material on the web-site</i>
17	01.06-05.06	Control over practical skills of biochemical analysis: analysis of the gastric juice and urine. « <i>Biochemistry: manual for...</i> » (p.58-59).

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