

LABORATORY CLASSES

Plan of laboratory classes for the international students of **pharmaceutical faculty** studying biochemistry in English 2026-2027

Autumn semester

Week N	Date	Topic
1	01.09-04.09	Nitrogen balance. Digestion absorption of proteins. Analysis of gastric juice acidity. « <i>Biochemistry: manual for...</i> » (p.30-31)
2	07.09-11.09	Intracellular amino acid metabolism. Detoxification of ammonia. Determination of non-protein nitrogen in blood and urea in urine. « <i>Biochemistry: manual for...</i> » (p.31-34)
3	14.09-18.09	Chemistry and metabolism of nucleoproteins. Determination of uric acid and total nitrogen in urine. « <i>Biochemistry: manual for...</i> » (p.34-35)
4	21.09-25.09	Matrix biosyntheses (synthesis of DNA, RNA, proteins). Modern techniques of molecular biology. Analysis of yeast nucleoprotein hydrolysis products. « <i>Biochemistry: manual for...</i> » (p.35-36)
5	28.09-02.10	Colloquium «Simple proteins and amino acids metabolism», «Nucleoprotein metabolism», «Structure and synthesis of nucleic acids Protein biosynthesis. Techniques of molecular biology» « <i>Biochemistry: manual for...</i> » (p.3-37)
6	05.10-09.10	Hormones. General characteristics and features of the hormone biological actions. Qualitative reactions for hormones. « <i>Biochemistry: manual for...</i> » (p.37-39)
7	12.10-16.10	Biochemistry of hormones. Glucose tolerance test. « <i>Biochemistry: manual for...</i> » (p.39-42)
8	19.10-23.10	Biochemistry of the liver. Determination of total bilirubin in serum. « <i>Biochemistry: manual for...</i> » (p.42-43)
9	26.10-30.10	Integration of Metabolism. Effect of hormones on blood glucose level. « <i>Biochemistry: manual for...</i> » (p.43-44)
10	02.11-06.11	Colloquium «Regulation of metabolism. Hormones. Biochemistry of the liver. Integration of metabolism» « <i>Biochemistry: manual for...</i> » (p.26-27)
11	09.11-13.11	Biochemistry of blood. Physical and chemical properties of the blood. Serum proteins. Separation of serum proteins by electrophoresis on acetyl cellulose. « <i>Biochemistry: manual for...</i> » (p.45-48)
12	16.11-20.11	System of hemostasis. Determination of calcium and chlorides in blood serum. « <i>Biochemistry: manual for...</i> » (p.48-50)
13	23.11-27.11	Biochemistry of nutrition. Role of proteins, fats, carbohydrates, vitamins. Qualitative reactions for vitamins. Determination of vitamin C in urine. « <i>Biochemistry: manual for...</i> » (p.50-53)
14	30.11-04.12	Pharmaceutical Biochemistry. Biotransformation of substances in the body and their excretion. Determination of the acetylsalicylic acid and paracetamol content and their metabolites in urine. « <i>Biochemistry: manual for...</i> » (p.55-56)
15	07.12-11.12	Colloquium «Biochemistry of the blood», «Biochemistry of the vitamins», «Regulation of water-salt and mineral balance», «Pharmaceutical Biochemistry of drugs. Biotransformation of xenobiotics». « <i>Biochemistry: manual for...</i> » (p.56-59)
16	14.12-18.12	Control over practical skills of biochemical analysis. Analysis of gastric juice and urine.
17	21.12-25.12	Final lesson « Simple protein and amino acid metabolism. Metabolism of nucleoproteins. Structure and synthesis of nucleic acids. Protein biosynthesis. Techniques of molecular biology. Regulation of metabolism. Biochemistry of hormones. «Functional biochemistry «Biochemistry of vitamins», «Pharmaceutical biochemistry. Pharmacokinetics of drugs. Xenobiotics biotransformation»

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