

The calendar-theme schedule of lectures to biochemistry for 2nd year students of the pharmaceutical faculty (pharmacist) on the IV (spring) semester (2016-2017 academic years)

№	Date	Theme of lecture	Lecturer	Time (h)
11	23.01.	Molecular biology. Genetic code. Replication. Transcription. Translation.	Associate prof. O.I.Shtatko	2
12		Molecular genetics. Regulation of genes expression. Features of protein biosynthesis regulation in eucaryotes. Mutations. DNA- reparation. Genetic engineering.	Associate prof. O.I.Shtatko	
13	6.02.	Hormones: definition, classification, characteristics. Mechanisms of hormones actions.	Associate prof. O.I.Shtatko	2
14	20.02.	Characteristics of hormones of central, peripheral and endoexocrine glands.	Associate prof. O.I.Shtatko	2
15	6.03	Vitamins: classification, nomenclature. Characteristics of water-soluble vitamins of B group, C and P: functions, food sources, daily needs, symptoms of avitaminosis, usage.	Associate prof. O.I.Shtatko	2
16	20.03.	Lipid soluble vitamins: coenzymatic and non- coenzymatic functions symptoms and reasons of avitaminosis and hypervitaminosis, biomedical use.	Associate prof. O.I.Shtatko	2
17	3.04.	Biochemistry of blood. Blood: functions, physicochemical constants. Hemoglobin: structure, types, connections, biosynthesis, its pathology. Peculiarity of metabolism in erythrocytes.	Associate prof. O.I.Shtatko	2
18	17.04.	Biochemistry of liver. Its role in protein, lipid and carbohydrate metabolisms. Pigmentary metabolism. Jaundices: types, reasons.	Associate prof. O.I.Shtatko	2
19	1.05/	Xenobiotics metabolism. Conception about xenobiotics. Common pathway of its biotransformation. Characteristics of cytochrome P-450. Ehanol metabolism.	Associate prof. O.I.Shtatko	2
20	15.05.	Water-mineral metabolism. Biochemistry of kidneys and urine.	Associate prof. O.I.Shtatko	2
			Total	18

Head of Biochemistry Departament

Associate prof. Zaichko N.V.

Apporoved
Vice-Chancellor for Academic Affair
Prof. J.Guminsky
62.01.2017 _____

The calendar-theme schedule of laboratory lessons to biochemistry for 2nd year students of the pharmaceutical faculty (pharmacist) on the IV (spring) semester (2016-2017 academic years)

№	Date	Theme of laboratory lesson	Time (h)
16	13.01.	Simple proteins: the norm of proteins in nutrition, nitrogenous balance. Digestion and putrefaction of proteins in GIT. Determination of stomach juice acidity.	2
17	18.01.	Decarboxylation. Biogenic amines. Transamination and deamination of amino acids. Ammonia neutralization. Determination of urea in blood serum.	2
18	27.01.	Specialised ways of certain amino acids metabolisms. Determination of glutathione and cysteine sum.	2
19	1.02	Nucleic acids: structures, values. Metabolism of nucleotides, its pathologies. Determination of uric acid in biofluids.	2
20	10.02	Molecular biology. Genetic code. Replication. Transcription. Processing. Inhibitors. Quantitative determination of RNA and DNA in biological fluids.	2
21	15.02	Translation. Inhibitors of the translation. Post-translational modification of proteins. Regulation of genes expression. Mutations. Genetic engineering. Determination of phenyl pyruvate and homogentisic acid in urine.	2
22	24.02	Concluding session “Metabolism of simple proteins. Molecular biology”	2
23	1.03	Hormones: classification, regulation of synthesis and secretion. Effects of hormones of central endocrine glands. Qualitative reactions on hormones. Determination of NO metabolites.	2
24	10.03	Effects of hormones of peripheral and endoexocrine glands. Endocrine control of Ca and P homeostasis. Influence of adrenalin and insulin on glucose levels in blood.	2
25	15.03.	Vitamins. Basic concepts of vitaminology. Vitamines of B group, C and P, A, E, K, D: functions, sources, daily needs, symptoms of avitaminosis, usage. Quantitative determination of vitamins C and P in food products. Qualitative reactions on vitamins A, E, K.	2
26	24.03	Blood as biological fluid, chemical composition. Rest nitrogen. Azotemies. Peculiarities of metabolism in erythrocytes. Hemoglobin: synthesis, pathology. Quantitative determination of chlorides in blood.	2
27	29.03	Biochemistry of liver. Pigmentary metabolism. Jaundices. Xenobiotics metabolism. Detection of anilin metabolites in urine. Amidopirin test.	2
28	7.04	Water-mineral metabolism, its regulation. Minor element values. Biochemistry of kidneys and urine. Qualitative reactions on Ca ²⁺ and Mg ²⁺ . Physicochemical properties of urine.	2
29	12.04	Concluding session “ Functional biochemistry ”	2
30	21.04	Practical training, situational tasks. Computer testing	2
		Total	30

Head of Biochemistry Departament

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