

Approved
Vice-Chancellor for Academic Affair

Prof. J.Guminsky

24.01.2018



The calendar-theme schedule of lectures to biochemistry for 2nd year students of the pharmaceutical faculty (pharmacist) on the IV (spring) semester (2017-2018 academic years)

№	Date	Theme of lecture	Lecturer	Time (h)
11	7.02.	Molecular genetics. Regulation of genes expression. Mutations. DNA- reparation. Hormones: Molecular mechanisms of regulatory signals transduction: membranous and cytosolic.	Associate prof. O.I.Shtatko	2
12	21.02.	Characteristics of hormones of central, peripheral and endoexocrinic glands. Hormones as pharmaceuticals	Associate prof. O.I.Shtatko	2
13	7.03.	Vitamins: classification, nomenclature. Characteristics of water-soluble vitamins of B group, C and P: functions, food sources, daily needs, symptoms of avitaminosis, usage. Lipid soluble vitamins: coenzymatic and non-coenzymatic functions symptoms and reasons of avitaminosis and hypervitaminosis, biomedical use.	Associate prof. O.I.Shtatko	2
14	21.03	Biochemistry of blood. Blood: functions, physicochemical constants. Hemoglobin: structure, types, connections, biosynthesis, its pathology.	Associate prof. O.I.Shtatko	2
15	4.04	Biochemistry of liver. Pigmentary metabolism. Jaundices: types, reasons, diagnostics. Xenobiotics metabolism. Conception about xenobiotics. Common pathway of its biotransformation. Characteristics of cytochrome P-450.	Associate prof. O.I.Shtatko	2
			Total	10

Head of Biochemistry Department

Prof. Zaichko N.V.

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The calendar-theme schedule of laboratory lessons to biochemistry for 2nd year students of the pharmaceutical faculty (pharmacist) on the IV (spring) semester (2017-2018 academic years)

№	Date	Theme of laboratory lesson	Time (h)
21	29.01-2.02	Nucleoproteins: definition, structures, digestion in GIT. Nucleic acids: definition, classification, structures, biological values. Metabolism of nucleotides and its pathology. Qualitative analysis of nucleoproteins. Determination of uric acid.	2
22	5 - 9.02	Molecular biology. Genetic code. Replication. Transcription. Processing. Inhibitors. Quantitative determination of RNA and DNA in biological fluids.	2
23	12-16.02	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
24	19-23.02	Concluding session "Metabolism of simple proteins. Molecular biology"	2
25	26.02-2.03	Hormones: classification, regulation of synthesis and secretion. Molecular mechanisms of regulatory signals transduction. Effects of hormones of central endocrine glands. Qualitative reactions on hormones. Determination of NO metabolites.	2
26	5-9.03	Effects of hormones of peripheral and endoexocrinic glands. Endocrine control of Ca and P homeostasis. Influence of adrenalin and insulin on glucose levels in blood.	2
27	12-16.03	Vitamins: basic concepts of vitaminology. Vitamine-like compounds. Characteristics of water-soluble vitamins of B group, C and P, its coenzymatic and non-coenzymatic functions, food sources, daily needs, symptoms of avitaminosis, medical use. Quantitative determination of vitamins C and P.	2
28	19-23.03	Lipid soluble vitamins: coenzymatic and non- coenzymatic functions, medical use. Symptoms and reasons of avitaminosis and hypervitaminosis. Qualitative reactions on lipid soluble vitamins.	2
29	26-30.03	Blood: functions, physicochemical constants in norm both in pathology. Non-protein nitrogen-containing and anazotic compounds. Rest nitrogen. Azotemies. Quantitative determination of chlorides in blood.	2
30	2-6.04	Peculiarity of metabolism in erythrocytes. Hemoglobin: structure, types, connections, biosynthesis, its pathologies. Qualitative tests on heme in HHb. Adler's [benzidine] test.	2
31	9-13.04	Biochemical functions of liver. Pigmentary metabolism. Jaundices. Determination of total bilirubin in blood.	2
32	16-20.04	General pathways of xenobiotics metabolism. I, II and III stages of xenobiotics biotransformation. Amidopirin test. Detection of anilin metabolites in urine.	2
33	23-27.04	Water-mineral metabolism, its regulation. Minor elements: classification, values. Biochemistry of kidneys and urine. Normal and pathological components of urine. Qualitative reactions on Ca ²⁺ and Mg ²⁺ . Physicochemical properties of urine.	2
34	30.04-4.05	Concluding session " Functional biochemistry "	2
35	7-11.05	Practical training, situational tasks. Computer testing	2
		Total	30

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