
		CALENDAR-THEMATIC PLAN OF LECTURES Biological chemistry for 2-d course in specialty 226 Pharmacy, Industrial Pharmacy (Language of instructions – English) ФМ23* (4,10д)англ –01 autumn semester, 2024-2025 a.y.		
No	Date	Lesson Name	Hours	Lecturer
MODULE 1. GENERAL PRINCIPLES OF METABOLISM. ENZYMES AND PATHWAYS.				
1.	02.09.2024	Amino Acids, Peptides, and Proteins. Tree-dimensional Structure of Proteins. Physical-chemical Properties of Proteins.	2	ass.prof. Seniuk I.V.
2.	09.09.2024	Conjugated Proteins: Hemoproteins, Glycoproteins. Structure, Functions, Biological Role. Conjugated Proteins: Proteoglycans, Lipoproteins, Metalloproteins, Phosphoproteins. Structure, Functions, Biological Role.	2	as.prof. Seniuk I.V.
3.	16.09.2024	Conjugated Proteins: Nucleoproteins and Nucleic Acids. Structure, Functions, Biological Role. Enzymes: Structure, Classification and Functions. Vitamins as Coenzymes. Kinetics of Enzymatic Reactions.	2	ass.prof. Seniuk I.V.
4.	23.09.2024	Enzymes: Mechanism of action. Specificity and Regulation of Enzyme Activity. Introduction into Metabolism: High-energy Bond Compounds and ATP Synthesis. Citric Acid Cycle.	2	ass.prof. Seniuk I.V.
5.	30.09.2024	Introduction into Metabolism: Biological Oxidation. Regulation of Energetic Processes in the Cell. Other Types of Oxidation. Carbohydrate Metabolism: Carbohydrate Structure, Digestion and Absorption.	2	ass.prof. Seniuk I.V.
6.	07.10.2024	Carbohydrate Metabolism: The Major Pathways of Carbohydrate Metabolism and its Regulation. Carbohydrate Metabolism Disorders. Lipid Metabolism: Lipid Structure, Digestion and Absorption.	2	as.prof. Seniuk I.V.
7.	14.10.2024	Lipid Metabolism: The Major Pathways of Lipid Metabolism and its Regulation. Lipid Metabolism Disorders. Protein Digestion and Amino Acid Absorption. Amino acid Putrefaction in Intestine and Detoxication its Products.	2	ass.prof. Seniuk I.V.
8.	21.10.2024	General Amino Acid Pathways and their Regulation. Ammonium Detoxication. Specific Pathways of Amino Acid Metabolism and its Disorders.	2	ass.prof. Seniuk I.V.
9.	28.10.2024	Heme biosynthesis, porphyrias. Heme catabolism, jaundices. Nucleotide digestion, synthesis and degradation.	2	ass.prof. Seniuk I.V.
Total:			18	

Note: lectures are given on Monday from 14:45 to 16:25 online.

**Head of the Department of
Clinical Laboratory Diagnostics,
Microbiology and Biological Chemistry**



Vira KRAVCHENKO

		CALENDAR-THEMATIC PLAN OF PRACTICAL LESSONS <u>Biological Chemistry</u> for <u>2-d course</u> specialty <u>226 Pharmacy, Industrial Pharmacy</u> (Language of instructions – English) <u>ФМ23*(4,10Д)АНГЛ-01</u> autumn semester, 2024-2025 a.y.			
No	Date	Lesson Name	Volume in hours Type of activity	Knowledge Assessment System, points	
				min	max
CONTENT MODULE 1. STRUCTURE AND FUNCTIONS OF BIOMOLECULES					
1.	06.09.2024	Amino Acids, Peptides, and Proteins.	3	-	-
2.	13.09.2024	Tree-dimensional Structure of Proteins.	3	2	4
3.	29.09.2024	Physical-chemical Properties of Proteins.	3	2	4
4.	27.09.2024	Structure and functions of Carbohydrates and Lipids	3	2	4
5.	04.10.2024	Conjugated Proteins: Glycoproteins, Lipoproteins Structure, Functions, Biological Role.	3	2	4
6.	11.10.2024	Conjugated Proteins: Hemoproteins, Metalloproteins, Phosphoproteins. Structure, Functions, Biological Role.	3	2	4
7.	18.10.2024	Conjugated Proteins: Nucleoproteins and Nucleic Acids. Structure, Functions, Biological Role.	3	3	4
8.	25.10.2024	Enzymes: Structure, Classification and Functions. Vitamins as Coenzymes. Kinetics of Enzymatic Reactions.	3	3	4
9.	01.11.2024	Enzymes: Kinetics of Enzymatic Reactions. Enzymes.Mechanism of action.	3	3	4
10.	08.11.2024	Enzymes: Specificity and Regulation of Enzyme Activity.Medical Applications.	2	3	4
		<i>Final test of CM 1 assimilation</i>	1	8	14
Total from CM 1				30	50
CONTENT MODULE 2. THE MAJOR METABOLIC PATHWAYS					
11.	15.11.2024	Introduction into Metabolism: High-energy Bond Compounds and ATP Synthesis.	3	2	4
12.	22.11.2024	Citric Acid Cycle. Introduction into Metabolism: Biological Oxidation. Regulation of Energetic Processes in the Cell. Other Types of Oxidation.	3	2	4
13.	29.11.2024	Carbohydrate Metabolism: Carbohydrate Structure, Digestion and Absorption.	3	3	4
14.	06.12.2024	Carbohydrate Metabolism: The Major Pathways of Carbohydrate Metabolism and its Regulation. Carbohydrate Metabolism Disorders.	3	3	4
15.	13.12.2024	Lipid Metabolism: Lipid Structure, Digestion and Absorption.	3	3	4
16.	20.12.2024	Lipid Metabolism: The Major Pathways of Lipid Metabolism and its Regulation. Lipid Metabolism Disorders.	3	3	4
17.	10.01.2025	Protein Digestion and Amino Acid Absorption. Amino acid Putrefaction in Intestine and Detoxication its Products.	3	2	4
18.	17.01.2025	Ammonium Detoxication. Specific Pathways of Amino Acid Metabolism and its Disorders.	3	2	4
19.	24.01.2025	General Amino Acid Pathways and their Regulation.	3	2	4
20.	31.01.2025	<i>Final test of CM 2 assimilation</i>	2	8	14
		<i>Semester credit of the Module 1</i>	1		
Total from CM 2				30	50
THE WHOLE NUMBER OF HOURS FOR THE MODULE 1:			60	60	100

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