CALENDAR-THEMATIC PLAN OF LECTURES
Biological chemistry for 2-d course of study full-time form of education
in specialty 226 Pharmacy, Industrial Pharmacy
(Language of instructions – English)
Фм22*англ –01, autumn semester, 2023-2024 a.y.

No	Date	Lesson Name	Hours	Lecturer
MODULE 1. GENERAL PRINCIPLES OF METABOLISM. ENZYMES AND PATHWAYS.				
1.	**12.09.2023**	Amino Acids, Peptides, and Proteins. Tree-dimensional Structure of Proteins. Physical-chemical Properties of Proteins.	2	ass.prof. Seniuk I.V.
2.	**26.09.2023**	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.	**10.10.2023**	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.	**24.10.2023**	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.	**07.11.2023**	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.	**21.11.2023**	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.	**05.12.2023**	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.	**19.12.2023**	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.	**16.01.2024**	Heme biosynthesis, porphyrias. Heme catabolism, jaundices. Nucleotide digestion, synthesis and degradation.	2	ass.prof. Seniuk I.V.
		Total:	18	

Note: lectures are given on Tuesday from 10:25 to 12:05 online.

Head of the Department of Biological Chemistry
and Veterinary Medicine, professor Vira KRAVCHENKO

CALENDAR-THEMATIC PLAN OF PRACTICAL LESSONS
Biological Chemistry for 2-d course of study full-time form of education
specialty 226 Pharmacy, Industrial Pharmacy (Language of instructions – English)
Фм22*англ-01, autumn semester, 2023-2024 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.	**07.09.2023**	Amino Acids, Peptides, and Proteins.	3	-	-
2.	**14.09.2023**	Tree-dimensional Structure of Proteins.	3	2	4
3.	**21.09.2023**	Physical-chemical Properties of Proteins.	3	2	4
4.	**28.09.2023**	Structure and functions of Carbohydrates and Lipids	3	2	4
5.	**05.10.2023**	Conjugated Proteins: Glycoproteins, Lipoproteins Structure, Functions, Biological Role.	3	2	4
6.	**12.10.2023**	Conjugated Proteins: Hemoproteins, Metalloproteins, Phosphoproteins. Structure, Functions, Biological Role.	3	2	4
7.	**19.10.2023**	Conjugated Proteins: Nucleoproteins and Nucleic Acids. Structure, Functions, Biological Role.	3	3	4
8.	**26.10.2023**	Enzymes: Structure, Classification and Functions. Vitamins asCoenzymes. Kinetics of Enzymatic Reactions.	3	3	4
9.	**02.11.2023**	Enzymes: Kinetics of Enzymatic Reactions. Enzymes. Mechanism of action.	3	3	4
10.	**09.11.2023**	Enzymes: Specificity and Regulation of Enzyme Activity. Medical Applications.	2	3	4
		Final test of CM 1 assimilation	1	8	14
		Total from CM 1		**30**	**50**
CONTENT MODULE 2. THE MAJOR METABOLIC PATHWAYS					
11.	**16.11.2023**	Introduction into Metabolism: High-energy Bond Compounds and ATP Synthesis.	3	2	4
12	**23.11.2023**	Citric Acid Cycle. Introduction into Metabolism: Biological Oxidation. Regulationof Energetic Processes in the Cell. Other Types of Oxidation.	3	2	4
13.	**30.11.2023**	Carbohydrate Metabolism: Carbohydrate Structure, Digestion and Absorption.	3	3	4
14.	**07.12.2023**	Carbohydrate Metabolism: The Major Pathways of Carbohydrate Metabolism and its Regulation. Carbohydrate Metabolism Disorders.	3	3	4
15.	**14.12.2023**	Lipid Metabolism: Lipid Structure, Digestion and Absorption.	3	3	4
16.	**21.12.2023**	Lipid Metabolism: The Major Pathways of Lipid Metabolism and its Regulation. Lipid Metabolism Disorders.	3	3	4
17.	**11.01.2024**	Protein Digestion and Amino Acid Absorption. Amino acide Putrefaction in Intestine and Detoxication its Products.	3	2	4
18.	**18.01.2024**	Ammonium Detoxication. Specific Pathways of Amino Acid Metabolism and its Disorders.	3	2	4
19.	**25.01.2024**	General Amino Acid Pathways and their Regulation.	3	2	4
20.	**01.02.2024**	*Final test of CM 2 assimilation*	2	8	14
		Semester credit of the Module 1	1		
		Total from CM 2		**30**	**50**
		THE WHOLE NUMBER OF HOURS FOR THE MODULE 1:	**60**	**60**	**100**

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