CALENDAR AND THEMATIC PLAN

of lectures of "**Organic chemistry"** *for the 2nd Year students of the* ***Pharmaceutical Faculty***

(Spring semester, 2020/2021 educational year)

№	Theme of lecture	Hours	Date
			group 9
Part 3. Biologically important compounds bearing carbonyl group. Heterofunctional compounds.			
1	Aldehydes and ketones.	2	18.01
2	Carboxylic acids and their functional derivatives. Derivatives of carbonic acid. Sulfonic acids.	2	01.02
3	Heterofunctional compounds.	2	15.02
Part 4. Heterocyclic compounds. Alkaloids. Natural biopolymers and bioregulators.			
4	5-Membered heterocycles with one and two heteroatoms.	2	01.03
5	6-Membered heterocycles with one and two heteroatoms.	2	15.03
6	7-Membered heterocycles, fused heterocycles. Alkaloids.	2	29.03
7	Carbohydrates.	2	12.04
8	Proteinogenous aminoacids. Peptides. Proteins.	2	26.04
Total		**16**	

Head of Pharmaceutical, Organic
& Bioorganic Chemistry Chair, prof. R. Lesyk

CALENDAR AND THEMATIC PLAN

of practical works of "**Organic chemistry"** *for the 2nd Year students of the* ***Pharmaceutical Faculty***

(Spring semester of 2020/2021 educational year)

№	Theme	Hours	Date
			Group 9
Issue 3. Biologically important compounds bearing carbonyl group. Heterofunctional compounds.			
1	Aldehydes and ketones.	4	13.01
2	Monocarboxylic acids.	4	20.01
3	Dicarboxylic acids. Methods of acylation.	4	27.01
4	Functional derivatives of carboxylic acids: soaps, twins, waxes. Derivatives of carbonic acid. Methods of acylation (continuation).	4	03.02
5	Halogeno-, hydroxy- and oxo-acids.	4	10.02
6	Aminoalcohols, aminophenols, aminoacids.	4	17.02
7	Derivatives of p-aminobenzoic and sulfanilic acids. Methods of sulfonation. Control work.	3	24.02
Issue 4. Heterocyclic compounds. Alkaloids. Natural biopolymers and bioregulators.			
8	5-Membered heterocycles.	4	03.03
9	6-Membered heterocycles.	4	10.03
10	7-Membered heterocycles, fused heterocycles.	4	17.03
11	Monosaccharides.	4	24.03
12	Di- and polysaccharides.	4	31.03
13	Proteinogenous aminoacids. Peptides. Proteins.	4	07.04
14	Nucleic acids.	3	14.04
15	Saponificable lipids. Prostaglandins.	3	21.04
16	Nonsaponificable lipids (terpenes, carotenoids, steroids). Control work.	3	28.04
Total		**60**	

Head of Pharmaceutical, Organic
& Bioorganic Chemistry Chair, prof. R. Lesyk

THEMATIC PLAN

of out-classes works of "**Organic chemistry"** *for the 2-d Year students of the* ***Pharmaceutical Faculty***

(Spring semester of 2020/2021 educational year)

№	Theme	Hours
Part 3. Biologically important compounds bearing carbonyl group. Heterofunctional compounds.		
1	Aldol condensation, its analogy *in vivo*.	4
2	Decarboxylation reactions of carboxylic acids and their role *in vivo.*	4
3	Specific reactions of bifunctional carboxylic acids.	4
4	Drug bearing carbonylic, carboxylic groups, and heterofunctional compounds as a drugs.	4
5	Stereochemistry of hydroxy and amino acids.	4
Part 4. Heterocyclic compounds. Alkaloids. Natural biopolymers and bioregulators.		
1	Three-, four-, and seven-membered heterocycles.	3
2	Identification of key monocyclic and fused bicyclic heterocyclic system.	3
3	Pyridine-carboxylic acids based drugs.	3
4	Structure of heteropolysaccharides and their role.	3
5	Mentane and its derivatives: synthesis, structure, and practical usage.	3
6	Nucleic acids and their role in transmission of genetic information.	3
7	Phospholipids: structure, properties and biological role.	3
8	O-, and N-glycosides: spreading in nature and biological function.	2
9	Prostaglandins: classification and biological function.	2
	Total	**44**

Head of Pharmaceutical, Organic
& Bioorganic Chemistry Chair, prof. R. Lesyk