

**Thematic lesson plan of lectures
in the discipline " Special pharmaceutical chemistry"
for students of the educational program
specialist degree
in the specialty of training 33.05.01 Pharmacy
direction (profile) Pharmacy,
form of study full-time (face to face)
for the 2023-2024 academic year**

№	Topics of lectures	Hours (academic)
7 term		
1	Heterocyclic drugs with one heteroatom in the cycle. Pyridine derivatives. Quinoline derivatives.	2
2	Heterocyclic drugs with two heteroatoms in the cycle. Pyrimidines. Uracil derivatives. Barbituric acid derivatives.	2
3	Natural drugs and their synthetic analogues. Classification of vitamins. Vitamins of aliphatic series. Vitamins alicyclic series.	2
4	Natural medicinal substances and their synthetic analogues. Naphthoquinones. Vitamins K. Antivitamins.	
5	Vitamins of the aromatic series. Chromane and phenylchromane vitamins.	2
6	Vitamins are pyridine derivatives. Pyrimidinothiazole vitamins.	2
7	Pterin Vitamins. Vitamins isoalloxazine and pyrrole derivatives	2
8 term		
8	Alkaloids. Classification. General methods of isolation, purification and separation of alkaloids. Pharmaceutical analysis. Pyridine and piperidine derivatives.	2
9	Tropane derivatives. Classification. Quinoline and phenanthrenisoquinoline derivatives.	2
10	Purine derivatives and their salts.	2
11	Alkaloids, derivatives of phenylalkylamines. Ephedrine hydrochloride, dephedrine.	2
12	Hormones. Concept, biological role and classification of hormones. Biochemical role of steroids in the organism as a prerequisite for the production of drugs. Classification and nomenclature. Cardiac glycosides.	2
9 term		
13	Corticosteroids. Steroid esters.	2
14	Androgens and anabolics. Androgenic hormones as drugs.	2
15	Gestagens and their synthetic analogues. Estrogens. Synthetic analogues of estrogens of non-steroidal structure.	2
16.	Chemical classification of antibiotics. Current state of the science of antibiotics. Penicillins. Cephalosporins.	2

17	Antibiotics of the aromatic series: nitrophenylalkylamines. Aminoglycosides.	2
18	Tetracyclines. General characterisation of chemical structure and properties. Relation between structure and biological action.	2
19	Antitumour antibiotics of different chemical groups. Anthracycline antibiotics. Aurelic acid derivatives.	2
20	Normative and technical documentation for medicinal products. Standardisation of medicinal products.	2
21	Validation. Regulatory framework for validation. Validation process.	2
22	Current status and challenges of quality control in intra-pharmacy production of medicines. Analytical rooms and analytical tables in pharmacies.	2
	Total	44

Considered at the meeting of the department of Pharmaceutical and Toxicological Chemistry "27" may 2023, protocol No9

Head of the Department



Ozerov A.