Thematic plan of seminar-type classes
in discipline « Fundamentals of design and drug's chemistry »
for students of 2021 years of admission
under the educational programme
cipher 35.05.01 Pharmacy,
specialisation (profile) Pharmacy
(Specialist's degree),
form of study full-time
for the 2025-2026 academic year

№	Thematic blocks	Practical training (PT) [3]	Hours (academic)[4]
	8 Semester		
1.	Design of synthetic drug structures based on the principle of chemical modification to model their biological activity.[1] Safety in the Chemistry Laboratory. Derivatives of Aromatic Compounds. Laboratory Work "Derivatives of Aromatic Compounds"[2]	PT	4
2.	Design of synthetic drug structures based on the principle of chemical modification to model their biological activity.[1] To study modern approaches to the design of synthetic drugs based on the principle of chemical modification to model their biological activity. Derivatives of heterocyclic compounds with one heteroatom.[2]	PT	4
3.	Design of synthetic drug structures based on the principle of chemical modification to model their biological activity.[1] Derivatives of heterocyclic compounds with two heteroatoms. Laboratory work "Derivatives of heterocyclic compounds"[2]	PT	4
4.	Design of natural medicinal substances to simulate their biological activity.1 To study modern approaches to the design of natural medicinal substances to simulate their biological activity. Alkaloids.[2]	PT	4
5.	The design of medicinal substances of natural origin for modeling their biological activity.[1] Glycosides.[2]	PT	4
6.	Empirical foundations of prodrug design for modeling their biological activity.1 To study the empirical foundations of prodrug design for modeling their biological activity. Amino acids, peptides, proteins. Laboratory work "Amino acids, peptides, proteins"[2]	PT	4
7.	Empirical foundations of prodrug design for modeling their biological activity.1 Nucleic acids.[2]	PT	4
8.	Empirical foundations of prodrug design for modeling their biological activity.1 Heterofunctional compounds. Laboratory work "Heterofunctional compounds"[2]	PT	4
9.	The importance of functional groups in the design of the structure of new potential medicines.1 Functional groups in medicinal products. [2]	PT	4
10.	Concluding test № 1 [1] "Modern research in the field of drug design for the treatment of various diseases"[2].	PT	4
11.	Analytical methods for confirming the structure of synthesized drugs: titrimetric analysis. Consider titrimetric methods of analysis: acid-base and redox titration. [1] ERWS «Titrimetric methods of analysis: acid-base and redox titration».[2]	PT	4
12.	Analytical methods for confirming the structure of synthesized drugs: titrimetric analysis. To consider titrimetric methods of analysis: complexometric and precipitation titration. [1] ERWS Titrimetric methods of analysis complexometric and precipitation titration ».[2]	PT	4
13.	Analytical methods for confirming the structure of synthesized drugs.[1] Analytical methods for confirming the structure of synthesized drugs: electrochemical methods of analysis. ERWS «Electrochemical methods of analysis» [2]	PT	4

14.	Analytical methods for confirming the structure of synthesized drugs.[1] Optical methods of analysis. Photocolorimetry.ERWS «Photocolorimetry».[2]	PT	4
15.	Analytical methods for confirming the structure of synthesized drugs.1 Optical methods of analysis. Spectrophotometry.ERWS «Spectrophotometry».[2]	PT	4
16.	Spectral analysis methods to confirm the structure of synthesized substances.1 Nuclear magnetic resonance. Spectral characteristics.[2]	PT	4
17.	Concluding test № 2. Final testing.[1] «Analytical methods for confirming the structure of synthesized drugs. Fundamentals of Drug Design and Chemistry».[2]	PT	4
		Total	68

1 – Topic
2 – Essential content
3 – PT (Practical training)
4 – one thematic block includes several classes, the duration of one class is 45 minutes, with a break between classes of at least 5 minutes

Considered at the department meeting chemistry protocol of «30»_May 2025 г. № 10.

Head of the Department A.К.Brel’