

**Thematic plan of independent work  
in the discipline "Pharmaceutical Chemistry"  
for third-year students of the Faculty of Pharmacy  
for the 5th semester of the 2021/2022 academic year**

<b>№</b>	<b>Topic</b>	<b>Hours</b>
<b>1</b>	Subject and tasks of pharmaceutical chemistry. Drug quality assessment system. Consistency of the composition as a necessary condition for all stages of existence of the drug. Peculiarities of pharmaceutical analysis are related to the purpose of drugs and the professional responsibility of the pharmacist. Pharmacopoeial analysis	<b>1</b>
<b>2</b>	Analysis of physicochemical properties of drugs as one of the elements of drug quality assessment.	<b>2</b>
<b>3</b>	The use of spectroscopic and chromatographic methods in the identification of drugs; features of use of standard samples of medicinal substances and standard spectra.	<b>2</b>
<b>4</b>	Identification of drugs of inorganic nature	<b>2</b>
<b>5</b>	Identification of drugs of organic nature by functional groups (functional analysis).	<b>2</b>
<b>6</b>	Causes of changes in the structure of the drug (exposure to light, moisture, temperature and other factors). The nature and nature of impurities, methods of their detection.	<b>2</b>
<b>7</b>	Methods of quantitative analysis of drug content. Gravimetry.	<b>2</b>
<b>8</b>	Titrimetric methods of analysis: Mercurimetry, permanganometry, bromatometry, iodometry, iodatometry, cerimetry, dichromatometry, nitritometry. Potentiometric titration. Determination of nitrogen in organic compounds	<b>2</b>
<b>9</b>	Titrimetric methods of analysis: Method of acid-base titration in aqueous and non-aqueous media, argentometry, complexometry.	<b>2</b>
<b>10</b>	Optical methods in quantitative analysis: refractometry, polarimetry, UV and IR spectrophotometry, photometry in the visible region of the spectrum.	<b>2</b>
<b>11</b>	Chromatographic methods. Methods based on thermodynamic properties of substances. Combination of extraction, chromatographic and optical methods in the analysis of dosage forms.	<b>2</b>
<b>12</b>	Express analysis of drugs. Current trends in the development of pharmaceutical analysis.	<b>2</b>
<b>13</b>	Express analysis of monocomponent drugs.	<b>2</b>
<b>14</b>	Express analysis of multicomponent drugs.	<b>2</b>
<b>15</b>	Express analysis of drugs. Analysis of an unknown drug	<b>2</b>
<b>Total</b>		<b>29</b>