

**THEMATIC PLAN OF LECTURES  
ON BIOPHARMACEUTICS**

*for the 5<sup>th</sup> year students of the Faculty of Pharmacy  
IX semester 2023 - 2024 academic year*

Approved at Department meeting  
Protocol №1, 31.08.2023

<b>№</b>	<b>Date</b>	<b>Topic</b>	<b>Lector</b>
1.	13.09	Subject and objectives of biopharmaceutics. Biopharmaceutical factors and their role in the development of the composition and technology of drug products	Assoc. prof. Oksana VASHCHENKO
2.	27.09	Bioavailability and pharmaceutical availability. Investigation of pharmaceutical availability as a criterion of quality evaluation of drug products	Assoc. prof. Oksana VASHCHENKO
3.	11.10	Procedures of the pharmaceutical availability study of solid and semisolid medicinal products	Assoc. prof. Oksana VASHCHENKO
4.	25.10	Bioequivalence of drug products and methods of its determination	Assoc. prof. Oksana VASHCHENKO

**THEMATIC PLAN OF PRACTICAL CLASSES  
ON BIOPHARMACEUTICS**

<b>№</b>	<b>Date</b>	<b>Topic</b>	<b>Hours</b>
1.	04.09	Drug product and dosage form. Biopharmaceutical classification system of drugs. Criteria for quality evaluation of drug products	3
2.	11.09	Pharmaceutical availability, methods of its investigation. Equipment and materials for investigation of pharmaceutical availability. Evaluation criteria, interpretation of results, validation	3
3.	18.09	Study of the influence of physical and chemical properties of active substances on the drug release rate from a dosage form	3
4.	25.09	Investigation of the influence of excipients and production on the drug release rate from tablets produced by different manufacturers	3
5.	02.10		3
6.	09.10	Investigation of the influence of excipients on the drug release rate from coated tablets	3
7.	16.10	Investigation of the influence of excipients on the drug release rate from capsules	3
8.	23.10	Investigation of the influence of simple chemical modification of drug substances on the drug release rate from semi-solid preparations for cutaneous application	3
9.	30.10	Investigation of the influence of excipients and type of dosage form on the drug release rate from semi-solid preparations for cutaneous application	3
10.	06.11	Investigation of the pharmaceutical availability of suppositories. Study of the influence of the dosage form type on the drug release	3
			<b>30</b>

**QUESTIONS FOR SELF-EDUCATION  
ON BIOPHARMACEUTICS**

<b>№</b>	<b>Topic</b>	<b>Hours</b>
1.	Biopharmaceutics and physicochemical aspects of suspensions. Study of emulsions bioavailability	6
2.	Biopharmaceutics and physicochemical aspects of emulsions. Study of suspensions bioavailability	6
3.	Inhalation route of drug administration. Factors affecting the pharmaceutical and bioavailability of active substances from aerosols	6
4.	Biopharmaceutical aspects of oromucosal preparations	6
5.	Influence of physiological and pharmaceutical factors on pharmaceutical availability and absorption kinetics of rectal and vaginal preparations	6
6.	Biopharmaceutical aspects of eye preparations, ocular therapeutic systems such as "Ocusert". Factors affecting bioavailability of eye preparations	6
7.	Methods of bioavailability determination of medicinal products with prolonged release of an active substance	6
8.	Requirements for bioequivalence studies of different dosage forms	6
9.	Role of biopharmaceutics in the development of innovative medicinal products and improvement of existing ones	4
		<b>52</b>

Head of the Department  
of Drug Technology and Biopharmaceutics

prof. Svitlana BILOUS