

EDUCATIONAL INSTITUTION
«BELARUSIAN STATE MEDICAL UNIVERSITY»

THE DEPARTMENT OF PHARMACEUTICAL TECHNOLOGY
WITH ADVANCED TRAINING AND RETRAINING COURSE

APPROVED at the Department Session
Protocol No7 of January 14, 2025

CALENDAR-THEMATIC PLAN
OF LECTURES FOR EDUCATIONAL DISCIPLINE
«PHARMACEUTICAL BIOTECHNOLOGY»
for students with training in English
II semester 2024/2025 ed. year (6 educational semester)

№	Theme	Date
1.	Pharmaceutical biotechnology as a science and a field of production	14.02.2025
2.	Improvement of bio-objects. Cellular engineering: basic principles of hybridization. Genetic engineering: basic principles of recombinant DNA technology	21.02.2025
3.	Improvement of biological objects by methods of genetic engineering. Creation of genomic libraries and their use for the development of new medicines	28.02.2025
4.	Genomics and proteomics. Medicines for gene therapy	SIW
5.	Molecular mechanisms of intracellular regulation of the metabolism of biological objects and their use in the biosynthesis of target products	07.03.2025
6.	The biotechnological process of drug production and its features. Pre-fermentation stages. Fermentation	14.03.2025
7.	Post-fermentation stages: isolation, concentration and chemical purification of the target product	SIW
8.	Biotechnology of antibiotics, probiotics, amino acids	21.03.2025
9.	Production of enzyme preparations and vitamins	SIW
10.	Biotechnology of recombinant proteins (using the example of protein and polypeptide hormones)	28.03.2025
11.	Biotechnology of steroid hormones	04.04.2025
12.	Immunobiotechnology. Production of monoclonal antibodies.	11.04.2025
13.	Interferons and interleukins: biological role, production methods	SIW
14.	Features of cell culture in advanced complex eukaryotes. Phytobiotechnology	18.04.2025

* SIW - supervised student independent work; form of control - oral interview, electronic test

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Retraining Course, Associate Professor, PhD



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