

**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 PRACTICAL LESSONS 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 biological objects by methods of selection, directed mutagenesis, and cellular engineering	21.02.2025
3.	Improvement of biological objects by methods of genetic engineering. Study of the basic principles of recombinant DNA technology	28.02.2025
4.	Genomics and proteomics. Medicines for gene therapy	07.03.2025
5.	Molecular mechanisms of intracellular regulation of the metabolism of biological objects and their use in the biosynthesis of target products	14.03.2025
6.	Final lesson, colloquium on topics 1-5	21.03.2025
7.	The biotechnological process of drug production and its features. Pre-fermentation stages	28.03.2025
8.	The biotechnological process of drug production and its features. Fermentation	04.04.2025
9.	The biotechnological process of drug production and its features. Post-fermentation stages	11.04.2025
10.	Final lesson, colloquium on the topic 7-9	18.04.2025
11.	Biotechnology of antibiotics, probiotics, amino acids	25.04.2025
12.	Production of enzyme preparations and vitamins	02.05.2025
13.	Biotechnology of recombinant proteins (using the example of protein and polypeptide hormones)	09.05.2025
14.	Biotechnology of steroid hormones	16.05.2025
15.	Immunobiotechnology. Immunoglobulin preparations (polyclonal antibodies): characteristics, technology, field of application. Technology of traditional and modern vaccines. Medicines for the treatment and prevention of viral AIDS	23.05.2025
16.	Immunobiotechnology. Technology of monoclonal antibodies. Receiving immunotherapeutic thrombolytics and anticoagulants, anti-cancer drugs. Interferons and interleukins: biological role, production methods	30.05.2025
17.	Features of cell culture in advanced complex eukaryotes. Phytobiotechnology.	06.06.2025

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Retraining Course, Associate Professor, PhD



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