

APPROVED

Head of Physiology and  
Pathophysiology Department  
with a course of Medical  
Biology

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**Calendar - thematic plan practical lessons in the discipline  
"Modern Problems of Molecular Biology"  
for 2<sup>nd</sup> year students of the Medical Institute of SSU  
specialty 8.222 - "Medicine"  
for the fall semester of the 2022-2023 academic year**

<b>№</b>	<b>Topic</b>	<b>Hours</b>
1	The subject and tasks of molecular biology	2
2	Macromolecules as objects of study of molecular biology	2
3	Molecular mechanisms of DNA replication, recombination and repair.	2
4	Molecular organization of genes.	2
5	Gene expression and regulation.	2
6	Organization of genomes of non-cellular and cellular organisms.	2
7	Organization of the human genome.	2
8	Molecular mechanisms of gene mutations	2
9	Molecular mechanisms of chromosomal and genomic mutations	2
10	Regulation of the cell cycle. Apoptosis.	2
11	Molecular bases of oncogenetics.	2
12	Nucleic acid research. DNA diagnostic methods.	2
13	DNA diagnostic methods.	2
14	Genetic engineering methods.	2
15	Transgenic organisms.	2
16	Gene therapy.	2
17	Cloning of organisms and cells.	2
18	Control of assimilation of the module "Modern problems of molecular biology"	2
<b>Total</b>		<b>36</b>