

## COURSE DESCRIPTOR

№	Topic	Total, hours	Lectures, hours	Workshops (seminars), hours	Labs, hours	Self-study of the material, hours	Individual tasks, hours
<b>full-time course form of study</b>							
Module 1. Molecular basis of heredity							
1	Subject and tasks of molecular biology	6	0	2	0	4	0
2	Macromolecules as objects of molecular biology	6	0	2	0	4	0
3	Proteins and their role in ensuring biological specificity	6	0	2	0	4	0
4	Molecular mechanisms of DNA replication, recombination and repair	6	0	2	0	4	0
5	Molecular organization of genes	6	0	2	0	4	0
6	Gene expression and its regulation	6	0	2	0	4	0
7	Organization of genomes of non-cellular and cellular organisms.	6	0	2	0	4	0
8	Organization of the human genome	8	0	2	0	6	0
Module 2. Molecular basis of hereditary diseases							
1	Molecular mechanisms of gene mutations	8	0	2	0	6	0
2	Molecular mechanisms of chromosomal and genome mutations	8	0	2	0	6	0
3	Regulation of the cell cycle. Apoptosis	8	0	2	0	6	2
4	Molecular basis of oncogenetics	10	0	2	0	8	4
Module 3. Modern issues of genetic technologies							
1	Nucleic acid studies	12	0	2	0	10	4
2	Methods of DNA diagnostics	12	0	2	0	10	4
3	Methods of genetic engineering	10	0	2	0	8	4
4	Transgenic organisms. Gene therapy	10	0	2	0	8	4
5	Cloning of organisms and cells.	10	0	2	0	8	4

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6	Final lesson on the subject "Modern problems of molecular biology"	12	0	2	0	10	0
<i>Total (full-time course form of study)</i>		<i>150</i>	<i>0</i>	<i>36</i>	<i>0</i>	<i>114</i>	<i>26</i>