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## **FUNDAMENTALS OF MOLECULAR GENETICS IN STUDYING THE COURSE OF BIOLOGY TO FOREIGN STUDENTS**

*T.V. Viktorova, E.I. Sayranova  
Bashkir State Medical University  
Department of Biology*

Molecular genetics being a branch of genetics that studies the mechanisms of heredity and variability at the molecular level, is currently a complex science that permeates many branches of biology. It is being adopted by a growing circle of researchers and often serves as the methodological basis for many sections of modern biology and medicine.

The discipline Biology refers to the basic part of the professional cycle in the direction of preparation "Medicine" for students of the 1st year. The section "Fundamentals of Molecular Genetics" covers a number of issues related to the structure and properties of the main biopolymers of a living cell, methods for their study, and the processes of expression of genetic information in which they are involved. Within the framework of this section, the basics of heredity and variability of living beings are studied by studying the transmission processes occurring at the subcellular, molecular level, the method of storing, implementing and changing genetic information.

The content of the section included a number of issues, such as the structure and functions of nucleic acids (DNA and RNA), the genetic code and its properties, the Central dogma of molecular biology, the patterns of structural and functional organization of genes in prokaryotes and eukaryotes, the processes of regulation of gene expression, the stages of protein biosynthesis. Practical classes widely use digital technologies (for example, the ROCH computer program, watching videos from Internet resources, testing on the TEAMS platform), as well as traditional illustrative material in the form of drawings on the board, posters, diagrams, and photographs. This greatly helps in the formation of students' knowledge of molecular genetics.

The section "Fundamentals of Molecular Genetics" is included in the second part of the course "Genetics", so it should lay the foundation for understanding the molecular patterns of classical heredity and variability. We are talking about the laws of G. Mendel - the laws of independent inheritance of traits, and the laws of T. Morgan - the laws of linked inheritance. In addition, the processes of formation of genetic variability, the methods of anthropogenetics cannot be understood without fundamental knowledge of molecular genetics.

The modern possibilities of digital technologies are especially indispensable when conducting distance learning with foreign students. Consideration of the processes of transcription and translation, which are difficult to understand, during which hereditary information is rewritten to informational (matrix) RNA and protein is synthesized, as well as the solution of typical and situational problems in molecular genetics, became possible on the MC Teams platform thanks to the use of a joint board. This gave students the opportunity to prescribe the course of solving a particular problem under the supervision of a teacher. It should be noted that during the practical lesson, there may be tasks performed by students, homework, as well as intermediate tests with multiple choice answers or with an open answer to a

question to test students' knowledge. MC Teams allows us to build a unique form of questions, assign a certain score for the correct answer and set the date and time for solving tasks.

The "Molecular Genetics" section is of practical importance, since modern medicine cannot do without knowledge of molecular genetics. This applies to such areas of practical medicine as medical genetic counseling, identification of genetic predisposition to certain multifactorial diseases, prenatal diagnosis of congenital hereditary pathology, etc. It should be noted that fundamentally new areas of medicine of the future are largely based on molecular genetics. This applies to such new areas as molecular medicine, oncogenetics, psychogenetics, pharmacogenetics, gene therapy, etc. Therefore, a modern doctor must have a good understanding of the molecular genetic foundations of the organization and functioning of the human body.

The "Molecular Genetics" section expanding and supplementing the basic knowledge of students about the molecular organization of hereditary material, will contribute to an in-depth understanding of all other sections of genetics, including its modern aspects. Knowledge of the basics of molecular genetics is an important prerequisite for studying such subsequent disciplines as "Human Genome", "Cytogenetics", "Medical Genetics", "Nano- and Cell Technologies in Biology and Medicine", "Biochemistry of Cell Cultures" and many others.

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### **FORMING STUDENTS' INDEPENDENT WORK SKILLS USING AN INTERMEDIATE LANGUAGE FOR THE DISCIPLINE PHARMACOLOGY**

*R.A. Yafizova, R.M. Kireeva, A.V. Samorodov, Yu.G. Afanaseva, L.V. Startseva*

*GBPOU Moscow State Educational Complex*

*Bashkir State Medical University,*

*Department of Pharmacology with a course of clinical pharmacology*

**Annotation.** In the article, we present the experience of organizing independent work of students of a medical university, using the example of a pharmacology course using a set of tasks and assignments.

**Keywords.** Independent work of students, pedagogical conditions, a set of tasks and assignments.

The federal state educational standard of higher education considers independent work of students as one of the necessary components of the training of future specialists. At present, the curricula allocate an increasing number of hours for independent work, which is quite natural, since modern society sets the task of preparing not only "knowing", but also, mainly, "thinking" and "able to extract independently » the knowledge and skills necessary for practical activities, actively "shaping" the competencies necessary for a particular specialist [1].

At present, independent work is increasingly using computer technology, which allows regular monitoring, including online, to organize independent work as an interactive interac-