

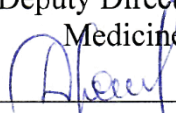
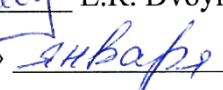


MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION  
Federal State Autonomous Educational Institution of Higher Education


**Far Eastern Federal University**  
(FEFU)  
**School of Medicine and Life Sciences**

«APPROVED»

Deputy Director of the School of  
Medicine and Life Sciences

  
E.R. Dvoynikova  
«19»  2024

**PASSPORT OF THE EDUCATIONAL PROGRAM**

Name of the educational program	<b>06.03.01 Biology, profile – Biomedicine</b>
	
Head of the Educational Program	Vadim V. Kumeiko (Ph.D.), Head of Department of Medical Biology and Biotechnology, Laboratory of Biomedical Cell Technologies,  Contact details Tel: +7 (902) 555-18-21, Email: kumeyko.vv@dvfu.ru
School/Department	School of Medicine and Life Sciences Department of Medical Biology and Biotechnology


Practicing teacher  
Vladislav Farniev

Number of Scholarship Places /Number of Fee-Paying Places	0/25
Form of Study	Full-time
Language of Training	English
Period of Study	4 years
Program Description	<p>The mission of the program is to prepare bachelors in the field of molecular biology and bioengineering with a special focus on biomedicine - a rapidly developing field of knowledge aimed at creating and applying breakthrough technologies for people's life and health. The program is distinguished by an interdisciplinary approach and accumulates modern and cutting-edge achievements in molecular and cellular biology, genetics, embryology, genetic and cellular engineering, medicine and various areas of biotechnology. It keenly focuses on skill development in the analysis of biological and biomedical data, with special courses in genomics and bioinformatics for detailed results interpretation and application in genomic research.</p> <p>Training takes place at the Center for Genomic and Regenerative Medicine, equipped with state-of-the-art facilities for practical training and orientation in biomedicine and translational science. Thanks to this, the graduate develops a wide range of competencies in the following areas:</p> <ol style="list-style-type: none"> <li>1. Molecular Biology - studying the peculiarities of the functioning of the genetic apparatus of cells, the molecular organization of various biological processes and cellular structures, methods of genetic modification of cells and genome editing.</li> <li>2. Cellular Technologies - manipulation of cells of living organisms for drug or therapeutic products testing. Tissue bioengineering technologies focused on the creation of bioartificial tissues and organs based on biocompatible materials and living cells for cell and tissue regeneration.</li> <li>3. Medicine, including a set of basic knowledge in the field of physiology, biochemistry and mechanisms of pathological processes, as well as modern methods of molecular and cellular diagnostics, and personalized therapy for metabolic, hereditary and oncological diseases.</li> </ol> <p>The program is internationally recognized and after successful completion, students can continue their education at the master's and doctoral level in the field of biology, biotechnology, biomedical sciences, regenerative medicine, etc. A graduate of the program can also continue his studies by enrolling in professional doctorate (medical education programs) in countries where the training of medical doctors is a master's degree (USA, Republic of Korea, leading universities in China (Hong Kong), etc., for which this undergraduate program is classified as a pre-medical course of study.</p>
Core Courses of the Program	<p>Molecular Cell Biology, Genetic Engineering, Biomedical Cell Technologies, Bioengineering, Methods of Molecular and Cellular Biology, Molecular Modeling of Biostructures, Immunology, Molecular Genetics, Genomic Medicine. The key disciplines of the program are implemented by leading Russian specialists with a worldwide reputation:</p> <ol style="list-style-type: none"> <li>1. Shevtsov Maxim, Doctor of Biological Sciences, Professor, specialist in the field of Molecular Oncology, Molecular Cellular</li> </ol>

	<p>Biology, Biology of Nanosystems for medical purposes, with experience in leading scientific centers in Russia and Germany.</p> <p>2. Vadim Kumeiko (Ph.D), head of the Laboratory of Biomedical and Cell Technologies, specialist in the field of Molecular Biotechnology, Biopolymer Biotechnology, Cellular Bioengineering.</p> <p>3. Anna Stenkova (Ph.D.), Associate Professor, Head of the Laboratory of DNA Diagnostics, specialist in the field of Molecular Genetics of Microorganisms and Human Genetics.</p> <p>4. Nikita Shved (Ph.D.), Associate Professor, specialist in the field of Cell Biology and Cell Engineering, Robotic Technologies for Cell Cultivation and Analysis.</p> <p>5. Evgeniy Balakirev, Doctor of Biological Sciences, Professor of the Department of Medical Biology and Biotechnology, Leading Researcher at the National Scientific Center for Marine Biology named after. A.V. Zhirmunsky Far Eastern Branch of the Russian Academy of Sciences. Famous Geneticist, author of works in leading international scientific publications and has extensive experience in international projects and many years of experience in leading scientific centers in Russia and the United States of America (Student of Francisco Ayala).</p> <p>6. Yulia Tatonova, PhD, Associate Professor, specialist in the field of Phylogenetics, Molecular Systematics and the development of Molecular Genetic methods for diagnosing infectious pathogens.</p> <p>7. Nikolay Vladimirovich Goncharov (Ph.D.), Associate Professor, Specialist in the field of Genetic Engineering, Intern at the National Cancer Institute (NCI) of the National Institutes of Health (NIH) United States of America, Fellow of the European Molecular Biology Organization (EMBO), France.</p> <p>8. Maria Handy (Ph.D.), Associate Professor, Specialist in the field of Plant Biotechnology, creation of Cell Cultures - producers of biologically active substances.</p>
Target Audience of the program	For those who want to become specialists in the field of molecular biology, genetic and cellular technologies, develop technologies based on living systems, create products for regenerative and personalized medicine, pharmaceuticals, biotechnological industries, conduct research in the field of genomics, biochemistry, cell biology, pharmacology. Fields that are in high demand anywhere in the world.
Collaborating and Internship Institutions	<p>JSC "R-Pharm" - Specializes in research, development and production of medicines and laboratory and medical equipment.</p> <p>Geropharm LLC - Manufacturer of biotechnological drugs and leading institution for drug safety in Russia.</p> <p>JSC "Biocad" - Modern pharmaceutical and biotechnological production, as well as systems for preclinical and clinical research.</p> <p>National Center for Marine Biology Research Center named after. A.V. Zhirmunsky Far Eastern Branch of the Russian Academy of Sciences</p> <p>Federal Scientific Center for Biodiversity of Terrestrial Biota of East Asia, Far Eastern Branch of the Russian Academy of Sciences</p>
Job and Educational Prospects	<p>During their studies, students have the opportunity to rotate and finally join teams of leading scientists implementing grants and major projects. Following the successful completion of their studies, students present their research work directly to leading employers and product customers working in the fields of scientific research, biomedicine and biopharmaceuticals.</p> <p>Thus, a wide range of institutions may become potential places of</p>

	<p>work:</p> <ol style="list-style-type: none"><li>1. Pharmaceutical companies that create new drugs using genetic, molecular and cellular bioengineering methods.</li><li>2. Biotechnology companies developing new life products, laboratory systems, reagents and diagnostic systems.</li><li>3. Advanced R&amp;D centers for biomedical companies.</li><li>4. Medical centers that use advanced diagnostic and therapeutic methods based on genetic research, modern morphological diagnostics, and cellular bioengineering.</li><li>5. Teachers, Scientists and Instructors in leading universities in the world.</li><li>6. Institutes and scientific centers of Academies of Sciences.</li><li>7. Institutions of medical and biological control and certification.</li><li>8. The program grooms the student for conducting cutting-edge and translational research that forms an attractive portfolio for leading jobs in biomedicine and for enrollment in master's programs at FEFU and other leading universities in Russia and abroad.</li></ol>
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Head of educational program

 / Kumeiko V.V.