



MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION  
Federal State Autonomous Educational Institution of Higher Education  
**"Far Eastern Federal University"**  
(FEFU)  
INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)



APPROVE  
Director of the Institute of Life Sciences  
and Biomedicine (Schools)

Yu.S.Khotimchenko

*Full name*

December 21, 2021

## **PROGRAM**

### **state final certification**

#### **DIRECTION OF PREPARATION**

**06.04.01 Biology**

**Master's program**

**Name of the educational program "Molecular and Cell Biology (in English)"**

Graduate Qualification - Master  
Full-time form of education  
Normative period for mastering the program  
(full-time education): 2 years  
Starting year of preparation: 2022

Vladivostok  
2021


APPROVAL SHEET  
state final certification programs


in the direction of preparation 06.04.01 Biology  
Name of the educational program "Molecular and Cell Biology (in English)"

The program of the state final certification is compiled in accordance with the requirements of the Federal State Educational Standard in the field of study 06.04.01 Biology, approved by order of the Ministry of Science and Higher Education of the Russian Federation dated 11.08.2020 No. 934.

Reviewed and approved at the meeting of the Board of Directors of the Institute of Life Sciences and Biomedicine (School) on December 21, 2021 (Minutes No. 2).

Considered and approved at a meeting of the FEFU CC, as part of the OPOP on January 27, 2022 (minutes No. 01-22)

Head of the OPOP V.V.  Kumeiko, Ph.D.,  
Director of the Department  
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Deputy Director of the School O.L.  Kalinina  
for educational work

Department Director  V.V. Kumeiko

## **Explanatory note**

The state final certification of a FEFU graduate in the field of study 06.04.01 Biology is mandatory and is carried out after mastering the main professional educational program in full.

Characteristics of the professional activity of the graduate:

Educational program in the direction of preparation 06.04.01 Biology, master's program "Molecular and Cell Biology (in English)", aims to develop students' professional competencies that allow them to be in demand in the labor market, promote their social mobility and provide the ability to quickly and independently acquire new knowledge, necessary for their adaptation and successful professional activity in the field of general and molecular biology. The main goal in this case is to find out how and to what extent the characteristic manifestations of life, such as heredity, reproduction of one's own kind, protein biosynthesis, excitability, growth and development, storage and transmission of information, energy transformations, mobility, etc. , are determined by the structure, properties and interaction of molecules of biologically important substances,

The training of specialists in the field of molecular and cellular biology is an extremely urgent task, since fundamental knowledge in this field of natural science is of decisive importance for the further development of theoretical and experimental biology, biotechnology and medicine.

The scientific and methodological potential accumulated to date in the field of cell biology, genetics and molecular biology is the basis for the development of modern methods and means for the prevention, diagnosis and treatment of a wide range of human diseases, the regeneration of damaged tissues and organs using cell therapy.

Currently, molecular medicine is not limited to the application of molecular biology and molecular genetics to understanding human health and disease. The goal of molecular medicine is to understand how health is maintained and the causes and mechanisms of human disease. The goal of molecular medicine is to develop a new understanding of good health and, through a better understanding of disease processes, to find new ways to prevent, diagnose and treat diseases.

Therefore, the future of medicine today is reasonably associated with the development of cellular technologies, and the labor market requires highly qualified specialists to manage modern medical institutions with the necessary set of professional competencies in research, development, management and design activities.

The importance of knowledge and research in the field of molecular and cellular biology is also determined by the fact that 50% of the world's funding for science supports molecular and cellular biology, and 70% of all publications in the

most prestigious scientific journals are about achievements in molecular and cellular biology.

The objects of professional activity of graduates are:

- biological systems of various levels of organization;
- processes of their vital activity and evolution;
- biological, bioengineering, biomedical, environmental technologies, biological expertise and monitoring, assessment and restoration of territorial biological resources;
- microorganisms, cell cultures of animals and plants, viruses, enzymes, biologically active chemicals;
- devices and equipment for studying the properties of used microorganisms, cell cultures and substances obtained with their help in laboratory and industrial conditions;
- products of biosynthesis and biotransformation of cell cultures of animals and plants;
- cells and tissues of the human body;
- objects of genetic engineering, microbiological synthesis, biocatalysis, nanobiotechnology, molecular modeling.

Types of tasks of professional activity of graduates:

- research
- pedagogical

Areas of professional activity and (or) areas of professional activity in which graduates who have mastered the Master's program can carry out professional activities:

- 01 Education and science
- 02 healthcare

Requirements for the results of mastering the educational program:

Universal competencies of graduates and indicators of their achievement:

<b>Name of the category (group) of universal competencies</b>	<b>Code and name of the graduate's universal competence</b>	<b>Code and name of the indicator of achievement of universal competence</b>
Systems and critical thinking	UK-1 Able to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	UK-1.1 Analyzes a problem situation using a systematic approach and modern natural science knowledge, using reliable data and reliable sources of information UK-1.2 Develops and meaningfully argues possible strategies for solving a problem situation based on a

		<p>systematic and interdisciplinary approach, taking into account the parameters of the level of public health</p> <p>UK-1.3</p> <p>Develops a scenario for implementing the optimal strategy for solving a problem situation, taking into account the necessary resources, achievable results, possible risks and consequences.</p>
Development and implementation of projects	UK-2 Able to manage a project at all stages of its life cycle	<p>UK-2.1 Develops the concept of the project within the framework of a specific problem field in the field of biosafety and human health, taking into account the possible results and consequences of the project, theoretically substantiates the concept. Formulates the goal, objectives, relevance, significance (scientific, practical, methodological and other, depending on the type of project)</p> <p>UK-2.2 Develops a project implementation plan taking into account possible resources, risks, scenarios, other variable parameters, proposes procedures and mechanisms for monitoring the implementation and results of the project</p> <p>UK-2.3 Carries out coordination and control in the process of project implementation, corrects deviations, makes additional changes to the implementation plan, if necessary, determines the areas of responsibility of team members</p>
Teamwork and Leadership	UK-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal	<p>UK-3.1 Develops a teamwork strategy to achieve the set goal, organizes the selection of team members</p> <p>UK-3.2 Organizes and corrects the work of the team, including on the basis of collegial decisions, distributes functional responsibilities, resolves possible conflicts and contradictions</p> <p>UK-3.3 Coordinates the overall work, organizes feedback, controls the result, takes managerial responsibility</p>
Communication	UK-4 Able to use modern communication technologies, including in a foreign language(s), for academic and professional interaction	<p>UK-4.1 Creates various types of written and oral texts in Russian and foreign languages for academic and professional interaction</p> <p>UK-4.2 Participates in the processes of professional communication in</p>

		Russian and foreign languages, including the use of modern communication technologies UK-4.3 Presents the results of research and project activities at various public events, participates in academic and professional discussions in a foreign language
Intercultural interaction	UK-5 Able to analyze and take into account the diversity of cultures in the process of intercultural interaction	UK-5.1 Analyzes the socio-cultural parameters of various groups and communities and the socio-cultural context of interaction UK-5.2 Builds socio-cultural communication and interaction, taking into account the necessary parameters of intercultural communication and socio-cultural context UK-5.3 Builds professional interaction in a multicultural environment
Self-organization and self-development (including health protection)	UK-6 Is able to determine and implement the priorities of their own activities and ways to improve it based on self-assessment	UK-6.1 Solves the tasks of their own personal and professional development, determines and implements priorities for improving their own activities UK-6.2 Uses technologies and skills to manage their cognitive activity and improve it based on self-assessment, self-control and the principles of self-education throughout life, including using health-saving approaches and techniques

General professional competencies of graduates and indicators of their achievement:

<b>Name of the category (group) of universal competencies</b>	<b>Code and name of the graduate's universal competence</b>	<b>Code and name of the indicator of achievement of universal competence</b>
	GPC-1 Able to use and apply fundamental biological concepts and modern methodological approaches for setting and solving new non-standard tasks in the field of professional activity	GPC-1.1 Monitors current topical issues, major discoveries and methodological developments in the field of biological and related sciences GPC-1.2 Analyzes trends in the development of scientific research and practical developments in the chosen field of professional activity, formulates innovative proposals for solving non-standard problems, using in-depth general scientific and methodological special training GPC-1.3 Applies modern

		methodological approaches and methods for setting and solving new non-standard tasks in the field of professional activity
	GPC-2 Able to creatively use in professional activities the knowledge of fundamental and applied sections of disciplines (modules) that determine the direction of the master's program	GPC-2.1 Considers the theoretical foundations, traditional and modern research methods in accordance with the core activity GPC-2.2 Forms new solutions by integrating various methodological approaches and creative use of special theoretical and practical knowledge GPC-2.3 Uses in professional activities the knowledge of fundamental and applied sections of disciplines (modules) that determine the direction of the profile type of activity
	OPK-3 Able to use the philosophical concepts of natural science and understanding of modern biospheric processes for a systematic assessment and forecast of the development of the sphere of professional activity	GPC-3.1 Uses the basic philosophical concepts of classical and modern natural sciences, the fundamentals of the doctrine of the biosphere, the main methods and results of environmental monitoring, models and forecasts for the development of biospheric processes GPC-3.2 Applies systems analysis methods to assess the environmental impacts of anthropogenic activities GPC-3.3 Predicts, based on regulatory and scientific methodology, the environmental consequences of the development of the chosen professional field, has experience in choosing ways to optimize technological solutions from the standpoint of environmental safety GPC-3.4 Predicts the development of the sphere of professional activity for a systematic assessment based on an understanding of modern biospheric processes and the use of philosophical concepts of natural science
	GPC-4 Able to participate in the environmental impact assessment of territories and water areas, as well as technological production using biological methods for assessing environmental	GPC-4.1 Uses the theoretical foundations, methods and regulatory documentation in the field of environmental expertise, features of the survey and assessment of the ecological state of territories and water areas, methods for testing the effectiveness and biosafety of products of technological production

	and biological safety	<p>GPC-4.2 Uses professional knowledge and skills to develop and propose innovative tools and methods for environmental assessment</p> <p>GPC-4.3 Participates in the environmental review of technological production using biological methods for assessing environmental and biological safety</p> <p>Applies the experience of planning an environmental review based on the analysis of available evidence</p> <p>GPC-4.4 Applies the experience of planning an environmental review based on the analysis of available evidence</p>
	<p>GPC-5 Able to participate in the creation and implementation of new technologies in the field of professional activity and control of their environmental safety using living objects</p>	<p>GPC-5.1 Applies the theoretical foundations and practical experience of using various biological objects in the field of professional activity, bio- and environmental safety</p> <p>GPC-5.2 Applies biosafety performance criteria</p> <p>GPC-5.3 Participates in the creation and implementation of new technologies in the field of professional activity and the control of their environmental safety using living objects</p> <p>GPC-5.4 Applies the experience of working with living objects promising for biotechnological processes, in accordance with the core activity</p>
	<p>GPC-6 Able to creatively apply and modify modern computer technologies, work with professional databases, professionally design and present the results of new developments.</p>	<p>GPC-6.1 Develops ways and prospects for the use of modern computer technologies in the biological sciences and education</p> <p>GPC-6.2 Uses professional databases and data banks in the chosen field of professional activity, the necessary mathematical apparatus, analysis and algorithm for storing electronic images, has experience in modifying computer technologies for professional research</p> <p>GPC-6.3 Uses modern computer technologies, works with professional databases, draws up and presents the results of new developments</p>
	<p>GPC-7 is able in the field of his professional activity to</p>	<p>GPC-7.1 Uses the main sources and methods of obtaining professional information, directions of scientific</p>



	<p>independently determine the strategy and issues of research, make decisions, including innovative ones, choose and modify methods, be responsible for the quality of work and implement their results, and ensure industrial safety measures when solving a specific problem.</p>	<p>research corresponding to the direction of the master's program          GPC-7.2 Identifies promising problems and formulates principles for solving actual research problems based on the use of complex information, including at the intersection of knowledge areas          GPC-7.3 Develops methods for solving and coordinating the implementation of individual tasks under the leadership of a group of researchers, taking into account safety requirements          GPC-7.4 Determines the strategy and issues of research, makes decisions, including innovative ones, chooses methods, is responsible for the quality of work and the implementation of their results, ensures industrial safety measures when solving a specific problem          GPC-7.5 Uses methods for analyzing the reliability and assessing the prospects of the results of experiments and observations; -experience in generalization and analysis of scientific and scientific and technical information          GPC-7.6 Apply the experience of presenting the results obtained in the form of reports and publications</p>
	<p>GPC-8 Able to use modern research equipment and computer technology to solve innovative problems in professional activities</p>	<p>GPC-8.1 Works with technical documentation, if necessary, prepares proposals for the modification of technical means to solve innovative problems in professional activities          GPC-8.2 Uses types of modern equipment for field and laboratory research in the field of professional activity          GPC-8.3 Uses modern research equipment and computer technology to solve innovative problems in professional activities</p>

Professional competencies of graduates and indicators of their achievement:

Code and name of professional competence	PS code (if PS is available) or reference to other	Labor function code (if there is a	Competence achievement indicators
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	grounds	PS)	
Type of tasks of professional activity: research			
PC-1 Able to creatively use in scientific and industrial-technological activities the knowledge of fundamental and applied sections of disciplines (modules) that determine the field of activity of molecular and cellular biology.			<p>PC-1.1 Works with scientific and technical information and specialized literature, studies the achievements of domestic and foreign science in the field of molecular and cellular biology using new technologies and electronic databases</p> <p>PC-1.2 Comprehends and formulates diagnostic solutions to the problems of molecular and cellular biology by integrating fundamental biological concepts and specialized knowledge in the field of professional activity</p> <p>PC-1.3 Uses in scientific and industrial and technological activities the knowledge of fundamental and applied sections of disciplines that determine the scope of molecular and cellular biology</p>
PC-2 Able to apply the methodological foundations of design, laboratory biological, environmental research, use modern equipment and computer systems in molecular and cellular biology			<p>PC-2.1 Develops rules and algorithms for designing, performing laboratory biological, environmental studies</p> <p>PC-2.2 Performs laboratory biological, environmental research using the scientific methodological foundations of fundamental research.</p> <p>PC-2.3 Applies the methodological foundations for designing, performing laboratory biological, environmental studies, uses modern equipment and computer systems in molecular and cellular biology</p>
PC-3 He is able to conduct research on biopolymers, their components and complexes, the structure and function of genes and genomes.			<p>PC-3.1 Studies the structure and functions of biopolymers, their components and complexes, mechanisms of storage, transmission and implementation of genetic information at the molecular level</p> <p>PC-3.2 Characterizes in detail the main processes occurring in a living cell: the processes of replication, transcription, translation, recombination, repair,</p>

			<p>RNA and protein processing, protein folding and docking</p> <p>PC-3.3 Explores the main methods of intermolecular interactions and mutual regulation of the processes of functioning of a living cell as part of a multicellular organism</p> <p>PC-3.4 Analyzes the structure and functions of genes and genomes, conducts structural and functional analysis of individual proteins and the proteome as a whole</p>
<p>PC-4 Able to conduct scientific research in molecular and cellular biology in order to develop the scientific potential of the Russian Far East and development of the resources of the oceans</p>			<p>PC-4.1 Conducts substantiation of scientific research in molecular and cellular biology in order to develop the scientific potential of the Russian Far East and the development of the resources of the World Ocean</p> <p>PC-4.2 Performs applied and exploratory research and development in molecular and cellular biology aimed at developing the scientific potential of the Russian Far East and developing the resources of the World Ocean</p> <p>PC-4.3 Interprets the results of scientific research in molecular and cellular biology aimed at developing the scientific potential of the Russian Far East and developing the resources of the World Ocean</p>
<p>PC-5 Able to conduct a systematic analysis of the relationship of cells, tissues and functional systems of organisms</p>			<p>PC-5.1 Studies the relationship of cells, tissues and functional systems of organisms</p> <p>PC-5.2 Explores the relationship of cells, tissues and functional systems of organisms</p> <p>PC-5.3 Conducts a systematic analysis of the relationship of cells, tissues and functional systems of organisms</p>
<p>PC-6 Able to develop experimental models, methods of cytological diagnostics, morphometry, marker histo- and cytochemistry, etc.</p>			<p>PC-6.1 Designs and carries out fundamental research in the field of studying the patterns of structure and functioning of cells and tissues in normal, experimental and pathological conditions</p> <p>PC-6.2 Develops and critically</p>

			<p>evaluates an experimental research model in the field of cytology and histology</p> <p>PC-6.3 Performs histo- and cytological diagnostics, morphometry, marker histo- and cytochemistry</p>
<p>PC-7 Able to develop new drugs, conduct biomedical research using living organisms and biological systems of various levels of organization.</p>			<p>PC-7.1 Carries out the rationale for biomedical research with the aim of developing medicines using living organisms and biological systems of various levels of organization</p> <p>PC-7.2 Defines the goals and objectives of biomedical research and drug development. Plans biomedical research, selects the design of scientific research in accordance with the goals and objectives</p> <p>PC-7.3 Conducts biomedical research using living organisms and biological systems of various levels of organization, analyzes the results obtained</p> <p>PC-7.4 Interprets the results of biomedical research and development in order to elucidate the molecular mechanisms of biochemical processes</p>
<p>Type of tasks prof. activities: pedagogical</p>			
<p>PC-8 Able to form educational material, conduct lectures, seminars, practical and laboratory classes in higher education programs</p>			<p>PC-8.1 Develops methodological materials on topics and forms of classes in higher education programs</p> <p>PC-8.2 Forms educational and thematic material on higher education programs in accordance with methodological developments and regulatory requirements</p> <p>PC-8.3 Conducts lectures, seminars, practical and laboratory classes on higher education programs</p>
<p>PC-9 Able to present educational material in oral, written and graphic forms for various contingents of students</p>			<p>PC-9.1 Develops educational materials on the topics and forms of classes in oral, written and graphic forms for various contingents of students</p> <p>PC-9.2 Presents educational material in oral, written and graphic forms for various contingents of students</p>

<p>PC-10 Able to teach in general educational institutions, as well as in educational institutions of higher education and to manage the research activities of students</p>			<p>PC-10.1 Plans classes in educational institutions, as well as in educational institutions of higher education and management of research activities of students  PC-10.2 Organizes classes in general educational institutions, as well as in educational institutions of higher education and the management of research activities of students  PC-10.3 Teaches in general educational institutions, as well as in educational institutions of higher education and manages the research activities of students</p>
<p>PC-11 Able to use in teaching knowledge about the history of the development of marine biology in the Far East, the contribution of Far Eastern scientists to the research and scientific production potential of the country</p>			<p>PC-11.1 Uses in teaching activities knowledge about the history of the development of marine biology in the Far East, the contribution of Far Eastern scientists to the research and scientific production potential of the country</p>
<p>PC-12 Able to form educational material, conduct lectures, seminars, practical and laboratory classes on vocational education programs for various audiences</p>			<p>PC-12.1 Develops methodological materials on the topics and forms of classes in vocational education programs for various student contingents  PC-12.2 Forms, in accordance with methodological developments and regulatory requirements, educational and thematic material on vocational education programs for various student contingents  PC-12.3 Conducts lectures, seminars, practical and laboratory classes on vocational education programs for various audiences</p>
<p>PC-13 Able to teach in professional educational organizations and manage the research activities of students</p>			<p>PC-13.1 Plans classes in the field of vocational training and additional vocational education using the knowledge and methodology of vocational training  PC-13.2 Organizes classes in the field of vocational training and additional professional education, using the methodology in accordance with professional training  PC-13.3 Conducts training sessions</p>

			<p>in the field of vocational training and additional professional education, using knowledge and methodology in accordance with professional training</p> <p>PC-13.4 Plans the research activities of students in the field of professional interests using the knowledge of scientific design and research methodology</p> <p>PC-13.5 Organizes research activities of students in the field of professional interests using the knowledge of scientific design and research methodology</p> <p>PC-13.6 Manages the research activities of students in the field of professional interests using the knowledge of scientific design and research methodology</p>
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### **The structure of the state final certification**

Block 3. State final certification includes:

Preparation for the defense procedure and defense of the final qualifying work.

### **Requirements for final qualification works and the procedure for their implementation**

The purpose of the state final certification (GIA) is to establish the compliance of the level and quality of professional training of a graduate in the direction 06.04.01 Biology, the master's program "Molecular and Cell Biology (in English)" with the requirements of the educational standard, independently established by the federal state autonomous educational institution of higher education " Far Eastern Federal University" for ongoing basic professional educational programs in the field of study 06.04.01 Biology, approved by order of the rector of FEFU dated 04.04.2016 No. 12-13-592, and employers. The GIA is designed to contribute to the systematization and consolidation of the knowledge and skills of the graduate in this area in solving specific professional problems,

The tasks of the GIA are:

- determining the readiness of a graduate to perform professional tasks;

– assessment of the ability to independently solve the problems of one's professional activity, present special information, argue and defend one's point of view;

– establishing the degree of formation of the graduate's competencies.

To conduct the GIA, the head of the organization forms a state examination commission (SEC).

The SEC is headed by a chairman (in the absence of a chairman, his deputy). The chairman (deputy) of the SEC is approved by a person who does not work in this organization, from among doctors of sciences, professors of the relevant profile, heads of health authorities and medical organizations.

The chairman and composition of the SEC are approved by the administrative act of the organization.

The GEC is valid for one calendar year.

The SEC is guided in its activities by this Procedure, the relevant educational standards independently established by the federal state autonomous educational institution of higher education "Far Eastern Federal University" under the master's program in terms of the requirements for the state final certification.

Before the state exam in the specialty, consultations are held.

The form of the state exam is oral, the defense of the WRC.

Requirements for the procedure for conducting the state exam.

The duration of the preparation for the answer is recommended within 60 minutes, the duration of the answer to the oral exam ticket is within 20 minutes.

It is recommended that no more than 5 examinees be in the audience at the same time during the state exam; it is not recommended to leave the audience during the exam.

To prepare the answer, the graduate uses examination sheets that are saved after taking the exam in a personal file.

Discussion and announcement of the results of the state exam by the state examination committee is recommended to be carried out individually for each examiner with a description of the answers. Decisions of the State Examination Commission are made by a simple majority of votes of the members of the Commission participating in the meeting, with the obligatory presence of the Chairman of the SEC or his deputy. In case of an equal number of votes, the chairman of the commission (or the deputy chairman of the commission replacing him) has the right of a casting vote.

For each student, a protocol for taking the state exam in the specialty is filled out, in which ticket questions and additional questions from members of the SEC are entered. The protocol for taking the state exam in the specialty is signed by those members of the SEC who were present at the exam.

The level of knowledge is assessed as "excellent", "good", "satisfactory", "unsatisfactory".

After the meeting of the SEC and the preparation of protocols, the results of the state exam are announced to students. After the state exam, all documents are transferred to the archive of the university. Students who have not passed the state final certification due to failure to appear at the state certification test for a good reason (temporary disability, performance of public or state duties, subpoena) have the right to pass it within 6 months after the completion of the GIA. The student must submit to FEFU a document confirming the reason for his absence. Students who did not pass the state certification test due to failure to appear at the state certification test for an unexcused reason or in connection with receiving an "unsatisfactory" grade,

A person who has not passed the GIA can re-pass the GIA no earlier than 10 months and no later than five years after the deadline for the state final certification, which was not passed by the student. The specified person can re-pass the GIA no more than two times. To re-pass the GIA, the specified person, upon his application, is reinstated in FEFU for the period of time established by the organization, but not less than the period of time provided for by the calendar curriculum for the state final certification in the direction of training 06.04.01 Biology (Master's degree).

For students from among the disabled, the GIA is carried out by the organization, taking into account the peculiarities of their psychophysical development, their individual capabilities and state of health. Features of conducting state certification tests for persons with disabilities are enshrined in the "Regulations on the state final certification of graduates of the federal state autonomous educational institution of higher professional education "Far Eastern Federal University"" (approved by order No. 12-13-2285 of November 27, 2015 (with subsequent changes).

When conducting the GIA, the following general requirements are met:

- conducting a GIA for disabled people in the same classroom together with students who are not disabled, if this does not create difficulties for disabled people and other students when passing the state final certification;
- the presence in the audience of an assistant (assistants) who provides students with disabilities with the necessary technical assistance, taking into account their individual characteristics (take a workplace, move around, read and complete a task, communicate with the chairman and members of the SEC);
- the use of the technical means necessary for students with disabilities during the passage of the GIA, taking into account their individual characteristics;



- ensuring the possibility of unhindered access for students with disabilities to classrooms, toilets and other premises, as well as their stay in these premises (the presence of ramps, handrails, extended doorways, elevators, in the absence of elevators, the audience should be located on the first floor, the presence of special chairs and other devices) .

All local regulations of the organization on the issues of conducting the state final certification are brought to the attention of students with disabilities in an accessible form for them.

At the written request of a student with a disability, the duration of passing a state certification test by a student with a disability may be increased in relation to the established duration of its delivery.

Depending on the individual characteristics of students with disabilities, the organization ensures that the following requirements are met when conducting the state attestation test:

a) for the blind:

- assignments and other materials for passing the state attestation test are drawn up in Braille or in the form of an electronic document accessible using a computer with specialized software for the blind, or read out by an assistant;

- written tasks are performed by students on paper in Braille or on a computer with specialized software for the blind, or dictated to an assistant;

- if necessary, students are provided with a set of writing utensils and paper for writing relief-point Braille, a computer with specialized software provision for the blind;

b) for the visually impaired:

- assignments and other materials for passing the state attestation test are drawn up in an enlarged font;

- individual uniform illumination of at least 300 lux is provided;

- if necessary, students are provided with a magnifying device, it is allowed to use magnifying devices available to students;

c) for the deaf and hard of hearing, with severe speech impairments:

- the availability of sound amplifying equipment for collective use is provided, if necessary, students are provided with sound amplifying equipment for individual use;

- at their request, state attestation tests are carried out in writing;

d) for persons with disorders of the musculoskeletal system (severe disorders of the motor functions of the upper limbs or the absence of upper limbs):

- written tasks are performed by students on a computer with specialized software or dictated to an assistant;

- at their request, state attestation tests are conducted orally.

A student with a disability, no later than 3 months before the start of the GIA, submits a written application on the need to create special conditions for him during the state certification tests, indicating his individual characteristics. Documents attached to the application confirming that the student has individual characteristics (in the absence of these documents in the organization).

In the application, the student indicates the need (lack of need) presence assistant at the state certification test, the need (lack of need) to increase the duration of the state certification test in relation to the established duration (for each state certification test).

### **Forms of the state final certification**

The final state certification of a master's degree graduate in the field of study 06.04.01 Biology, "Molecular and Cell Biology (in English)" is mandatory and is carried out after mastering the educational program in full. The GIA includes the preparation and defense of a master's thesis, which is carried out in the form of a master's thesis during the internship period and is an independent and logically completed shnew WRC.

WRC, performed by the student, demonstrates the level of readiness for independent professional activity. WRC protection is included in the structure of the GIA.

The requirements for the WRC in this area of training are contained in the Federal State Standard, as well as in the local regulatory act of the Far Eastern Federal University - "Regulations on the state final certification" (Order No. 12-13-2285 of November 27, 2015).

### **The procedure for filing and considering appeals based on the results of state certification tests**

1. According to the results of state certification tests, the student has the right to appeal.

2. The student has the right to file a written appeal with the Appeal Commission about the violation, in his opinion, of the established procedure for conducting the state certification test and (or) his disagreement with the results of the state certification test (the form of the appeal is given in Appendix 5).

3. The appeal is submitted by the student personally to the appeal commission no later than the next working day after the announcement of the results of the state certification test. Information about the place of work of the appeal commission is brought to the attention of students on the day of the defense of the WRC.

4. To consider the appeal, the secretary of the SEC sends to the appeal commission the minutes of the meeting of the SEC, the conclusion of the chairman

of the SEC on the observance of procedural issues during the state certification test, as well as the WRC, a review and a review (reviews).

5. The appeal is considered no later than 2 working days from the date of filing the appeal at a meeting of the appeal commission, to which the chairman of the SEC and the student who filed the appeal are invited.

6. The decision of the appeal commission is drawn up in a protocol and brought to the attention of the student who filed the appeal within 3 working days from the date of the meeting of the appeal commission. The fact of familiarization of the student who filed the appeal with the decision of the appeal commission is certified by the signature of the student.

7. When considering an appeal on violation of the procedure for conducting a state attestation test, the appeal commission takes one of the following decisions:

- on the rejection of the appeal, if the information contained in it about violations of the procedure for conducting the GIA of the student was not confirmed and (or) did not affect the result of the state certification test;

- on the satisfaction of the appeal, if the information contained in it about the violations of the procedure for conducting the GIA of the student was confirmed and affected the result of the state certification test.

8. If a decision is made to satisfy the appeal on violation of the procedure for conducting the state attestation test, the result of the state attestation test is subject to cancellation, in connection with which the protocol on the consideration of the appeal is transferred to the state examination commission no later than the next working day for the implementation of the decision of the appeal commission. The student is given the opportunity to pass the state attestation test within the time limits set by the university.

9. When considering an appeal of disagreement with the results of the state attestation test, the appeal commission makes one of the following decisions:

- on the rejection of the appeal and the preservation of the result of the state attestation test;

- on the satisfaction of the appeal and the presentation of a different result of the state attestation test.

10. The decision of the appeal commission is submitted to the SEC no later than the next working day. The decision of the appeal commission is the basis for the cancellation of the previously issued result of the state attestation test and the issuance of a new one.

11. The decision of the appeal commission is final and not subject to revision.

12. The re-conduct of the state attestation test is carried out in the presence of one of the members of the appeal commission no later than July 15 of the current year.

13. An appeal to re-conduct a state certification test is not accepted.

### **Requirements for final qualifying works and the procedure for their implementation.**

WRC is a mandatory element of the GIA. The general requirements for the WRC are determined by the FEFU Educational Standard, "Regulations on the state final certification for educational programs of higher education - bachelor's, specialist's, master's programs of the federal state autonomous educational institution of higher education "Far Eastern Federal University"" No. 12-13-2285 dated November 27, 2015 G.

WRC is carried out in the form of a scientific work, which is an independent research work related to the solution of an actual research problem in accordance with the activities provided for by direction 06.04.01 Biology.

General requirements for WRC:

- target orientation;
- logical presentation of the material;
- depth of research and completeness of coverage of issues;
- persuasiveness of the argument;
- brevity and accuracy of wording;
- concreteness of the presentation of the results of the work;
- evidence of conclusions and validity of recommendations;
- proper presentation of research results.

The purpose of the WRC is to expand, systematize and consolidate the theoretical knowledge and practical skills of students in solving complex problems with research elements, as well as determining the level of preparation of graduates for the performance of functional duties.

During the WQR, the student must demonstrate:

- knowledge on the chosen topic and the ability to present theoretical material in a problematic way;
- the ability to analyze and summarize literary sources, solve practical problems, formulate conclusions and assumptions;

The wording of the WRC topic must meet one of the following requirements:

- the topics of the WRC should be aimed at solving professional problems;
- the topics of the WRC must comply with the requirements of the Federal State Educational Standard of Higher Education, be relevant, correspond to the current state and prospects for the development of science, technology and culture (the list of topics is subject to updating annually);
- WQR topics are offered by the teaching staff, agreed with the head of the department and the head of the EP, after which they are offered to students;
- the student may be given the right to choose the topic of the WRC based on the approved topic;
- a student or an enterprise-consumer can propose an initiative topic for the

WRC with a rationale for the expediency of its development.

When performing the WRC, the student must use special and scientific literature, methodological manuals and instructions, standards, technological instructions, catalogs on technological equipment and other materials.

The volume of the WRC should be 70-120 printed pages.

### **Requirements for the structure and content of the final qualification work of the master, performed in the form of a master's thesis**

Master's work should include the following sections (mandatory):

- Title page.
- Exercise.
- Introduction.

It reveals the relevance of the work, contains information about the subject and object of research, a clearly formulated goal and objectives of the work, as well as protected provisions.

- Literature review.

It is problematic presented theoretical material. Contains systematized literary information on the topics of the WRC. Reflects the results of a literary search for at least a 10-year period from the date of the work. Includes the results of the analysis of educational, periodical, scientific, technical, regulatory literature, as well as patent data.

- Materials and research methods.

Contains general information about the organization of the practical part of the experiment, including the general scheme of research; characteristics of the objects of work; information about organizations participating in the work (if any); enumeration of instruments, reagents and solutions used in the experimental part of the work; a detailed description of the methods and methods of research used in the work.

- Results and discussion.

The main part of the WRC. It consists in the presentation of experimental data obtained in the course of the work with a description of the results obtained, a discussion of the identified patterns, an evidence-based presentation of one's own conclusions, assumptions, theories, etc. The results are preferably presented in tabular and graphical form with preliminary statistical data processing.

- Conclusions / conclusion and recommendations.

They are abstracts reflecting the main results of the work, consistent with the tasks set and the defended provisions set out in the "Introduction" section.

- List of used sources.

Contains a bibliographic description of all documents used in the preparation of the dissertation, made in accordance with the requirements for the design of written work performed by students and listeners of FEFU.

On an initiative basis, the WRC may include:

- NTD projects (including TU, TI, etc.);
- results of a patent search in the form of a patent certificate;
- description of equipment and instruments used in experiments, measurements and tests;
- materials confirming the quality of the study performed (certificate of implementation, act of implementation, test reports, patent application, publications, etc.);
- applications of a recommendatory nature, including graphs, diagrams, auxiliary numerical data tables, illustrations and photographs of an auxiliary nature, etc.

### **The procedure for preparing the final qualification work**

The preparation of the WQR is carried out during the entire period of study in the master's program as part of research work, as well as research, industrial and pedagogical practices provided for by the FEFU OS in this area of master's training. When determining the work assignment for a master student for each type of practice, the topic of his WRC should be taken into account.

Research work (RW) of a master student is organized both in individual (consultations of a supervisor, practitioners) and in a collective form (seminars, workshops, conferences, research laboratories, scientific circles, summer / winter schools, student work competitions, web -forums, exhibitions, practices, project activities, including grants and contracts).

One of the main forms of research, including the work of a master's student on the WRC, is his mandatory participation in a regular research seminar. The seminar provides for approbation of the results of work on research, technical, media, business, etc. a project carried out by a master student as a WRC. Participation in the work of the research seminar is the basis for compiling and adjusting the Individual plan of the undergraduate, which fixes the stages of the implementation of the WRC, forms and types of research undergraduate in each semester.

At various stages of the preparation of the WRC, the following specific types of research can be provided, the results of which are reporting materials for each stage: preparation of an analytical review, digest, abstract, essay, report / theses, prospectus, review, text of an abstract, publication, grant application,

development of recommendations, expert opinion, creation of a model, organization of an exhibition or conference, participation in the development of a website, etc.

The WRC is directly supervised by a supervisor who has a Russian or foreign academic degree and/or academic title. The supervisor of the undergraduate participates in the formation of his individual educational trajectory, taking into account the theme of the WRC, the preparation of which should be facilitated by research work in the semester, special seminars, elective courses, practices. The supervisor participates in the preparation of the research map and the schedule for the preparation of the WRC, controls their implementation, provides periodic advice to the undergraduate, assists him in research work (participation in conferences, preparing materials for publication, etc.), gives recommendations and conclusions about the possibility of presenting work for defense (review of the supervisor).

In agreement with the head of the master's program, a scientific consultant may be appointed to the master's student.

The WRC prepared in the form of a bound manuscript with a set of drawings (if any), as well as the accompanying documentation, must be submitted to the attestation commission within the time frame stipulated by the work schedule.

The defense of the WRC is held at an open meeting of the SEC according to a predetermined schedule. The graduate prepares a report for defense with a media presentation of materials, taking into account the following structural construction:

- the relevance of the topic of work;
- purpose and objectives of the study;
- methods of studying the problem under consideration;
- brief description of the object of study;
- the results of the student's analysis of the phenomenon under study, indicating the personal contribution of the graduate;
- suggestions for improving the analyzed phenomenon.

The duration of the report is no more than 15 minutes. At the same time, most of the presentation time should be spent on the results of the analysis and defended recommendations.

After the presentation of the report, the members of the SEC ask questions to the defender. At the same time, the graduate has the right to use all the materials that he prepared for his defense. The total duration of the WRC defense is no more than 30 minutes.

Then the floor is passed to the head, and in case of his absence, the secretary reads out the review. In the speech, the supervisor briefly outlines the content of his review.

After the completion of the WRC defenses scheduled for that day, the SEC proceeds at its closed meeting to discuss the results of the defense of the WRC by each graduate. The results of the defense are evaluated by a simple majority vote of the commission members participating in the meeting. This takes into account the level of the report and presentation on the results of the WRC, answers to questions from members of the SEC. In case of an equal number of votes, the opinion of the chairman is decisive.

The grade "excellent" is given to the student if:

- The problem posed in the WRC is studied in depth, an analytical review of domestic and foreign studies on the topic under study is presented;
- the set experiment is consistent with the goals and objectives of the work, has a logical conclusion, the results are reliable, statistical processing of the data obtained has been carried out;
- the work used at least 40 literary sources (periodicals, monographs, manuals, normative documentation, etc.), of which at least 50% were published over the past 10 years;
- when preparing, designing and presenting the work, graphic, demonstration or calculation programs were used;
- the design of the work meets the requirements (see above), the demonstration material is well readable, understandable, compatible with the oral presentation, and contributes to the understanding of the presented work;
- has a concrete practical result that has been tested and positive external reviews;
- the work is presented clearly, accessible, concisely, the oral report is accompanied by relevant demonstration material; the student at a high level is oriented in the topic under study, answers the questions asked in detail and to the point; the answers are analytical.

A "good" grade is given to a student if:

- the topic of the WRC is disclosed, the main directions of the problem under study are systematized; the set experiment is consistent with the goals and objectives of the work, has minor flaws, the results are reliable, statistical processing of the data obtained has been carried out;
- the work used at least 40 literary sources (periodicals, monographs, manuals, normative documentation, etc.), of which at least 40% were published over the past 10 years;
- when preparing, designing and presenting the work, graphic, demonstration or calculation programs were used;



- the design of the work corresponds to the RD, the demonstration material is combined with the oral report and contributes to the understanding of the work presented;

- has a specific practical result that has been tested and positive feedback;
- the work is presented clearly, accessible, the oral report is accompanied by relevant demonstration material; the diploma student owns the material at a high level, essentially answers the questions asked.

The mark "satisfactory" is given to the student if:

- the topic is disclosed, but the presentation of the material is descriptive with links to sources;

- the set experiment is consistent with the goals and objectives of the work, has flaws, some areas of the experiment do not have a logical conclusion; the results are reliable, partial statistical processing of the obtained data was carried out;

- the work used at least 25 literary sources (periodicals, monographs, manuals, normative documentation, etc.), of which at least 30% were published over the past 10 years;

- when preparing, designing and presenting the work, special software tools were not used;

- the design of the work and demonstration material complies with the ND;

- has a practical result, but has not passed approbation;

- the work is not presented clearly enough, the oral report is not accompanied by demonstration material in full; the diploma student does not know the material well enough, he does not answer the questions accurately enough.

An "unsatisfactory" grade is given to a student if:

- the topic is not disclosed, the material presented does not correspond to the purpose and objectives of the work;

- the practical part is not completed, the results are unreliable;

- used less than 20 literary sources, most of which are more than 10 years old;

- when preparing, designing and presenting the work, special software tools were not used;

- the design of the work does not comply with the ND, the demonstration material is missing or does not correspond to the report being submitted;

- the work is not presented in full, the oral report is not accompanied; the diploma student does not own the material at a high level, answers the questions asked in detail and to the point.

Students who received an unsatisfactory grade at the defense of the WQR, on the basis of the protocol of the attestation commission and the negative decision

of the appeal commission (in the event of an appeal), are subject to expulsion from FEFU, as they did not defend the WQR.

### **Evaluation scale and criteria for evaluating the results of the defense of the final qualification work**

The main objects of evaluation of the results of the defense of the WRC (master's thesis):

- business activity of the student in the process of preparing the WRC;
- the content and quality of the performance of the WRC, its design;
- the level of responses during the defense of the WRC;
- characteristics and evaluation of the student's work by the head of the

WRC and the reviewer.

When performing and defending the WRC, students must demonstrate:

- skills of setting a research problem, the ability to assess its relevance and justify the purpose and objectives of the study;
- the ability to reasonably choose and correctly use the most effective methods for solving problems;
- ability to analyze own results, formulate correct conclusions; – the skill of conducting a bibliographic search, analysis and use of scientific and technical literature and regulatory legal acts on the topic under study; – the degree of professional readiness, reflected both in the content of the WRC and in the process of its defense;
- the ability to clearly and reasonably answer the questions asked in the process of defense;
- the ability to competently, using special terminology and vocabulary, clearly, in a logical sequence, state the content of the work performed;
- ability to use computer technology.

## WRC evaluation criteria

Scale evaluation	Evaluation criteria
Grade "Great"	exhibited if: the work is relevant and has a research character; competent, logical, consistent presentation of the material; execution of work at a high level and meets the established requirements; conclusions and proposals are reasoned, substantiated and have practical significance in the professional field; during the report, the student uses a presentation that gives a complete picture of the results of the WRC, contains the main provisions of the work and conclusions in a visual form, and fully illustrates the report; when defending the work, the student demonstrates deep knowledge of the theoretical issues of the topic of the WRC; the ability to analyze scientific, technical, regulatory and factual information received, to draw appropriate reasoned conclusions; owns modern methods of research and processing of the received factual data; owns a competent style of speech, easily, fully and to the point answers the questions posed, reasonably defends the main conclusions of the work; the work has a positive feedback from the head of the WRC and the reviewer
Grade "Fine"	exhibited if: the work is relevant and has a research character; competent, logical, consistent presentation of the material; execution of work at a good level and meets the established requirements; the conclusions are reasoned, but the proposals are not fully substantiated, they have some practical significance in the professional sphere; during the report, uses a presentation that gives an idea of the results of the WRC, contains the main provisions of the work and conclusions in a visual form; when defending the work, the student shows knowledge of the theoretical issues of the topic of the WRC; the ability to analyze scientific, technical, regulatory and factual information received, to draw appropriate logical conclusions; owns modern methods of research and processing of the received factual data; single (rough) stylistic and speech errors, without much difficulty answers the questions posed, knows how to defend the main conclusions of his work; the work has a positive feedback from the head of the WRC and the reviewer
Grade "satisfactory"	exhibited if: the work is relevant and has elements of a research nature; the work shows inconsistency in the presentation of the material; the design of the work as a whole meets the requirements, but there are a number of errors; based on practical material, but the analysis is superficial, the conclusions may have some practical value in the professional field; when defending the work, the student shows uncertain knowledge of the theoretical issues of the topic of the WRC; insufficiently owns the research methodology, therefore, unreasonable proposals are presented; has stylistic and speech errors, does not give a full reasoned answer to the questions asked, does not defend the main conclusions of the work without reason; during the report uses a presentation that does not give a complete picture of the results of the WRC in a visual form;

Grade "unsatisfactory"	exhibited if: the work is not research, is of a compilation nature; inconsistent presentation of the material; the design of the work does not meet the requirements or contains many errors; conclusions are declarative; when defending the work, the student shows ignorance of the theoretical issues of the topic of the WRC; demonstrates the lack of independence of the analysis of the material; gross stylistic and speech errors, finds it difficult to answer the questions posed, makes significant mistakes when answering; inability to defend the main provisions of the work; during the report uses a presentation that does not give an idea of the results of the work performed
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### **Methodological materials that determine the procedures for evaluating the results of mastering the educational program.**

GIA is a form of assessing the degree of mastering the educational program by students, determines the level of readiness of graduates to perform professional tasks and the level of compliance of the training they received in the process of training with the requirements of the Federal State Educational Standard of Higher Education, is carried out on the basis of the principles of objectivity and an independent assessment of the quality of training of students.

The WRC is evaluated by the members of the graduation attestation commission, taking into account the review of the supervisor and the reviewer's assessment. This takes into account:

- the level of theoretical and research study of the problem;
- quality and compliance of the research methodology with the problem;
- completeness, consistency and multivariance of approaches to solving the problem under consideration;
- the effectiveness of solving a specific scientific and practical applied problem that is important for a particular branch of science;
- the possibility of implementation;
- degree of independence;
- design of the WRC, the quality of the report and visual materials.

WRC in accordance with the curriculum and schedule of the educational process is carried out during the period of undergraduate practice and research work and is an independent and logically completed work that contains a set of results put forward for public defense.

### **Requirements for the content and design of the final qualification work**

#### **General provisions**

The WRC is the result of independent creative work of a master student and is aimed at systematizing, consolidating and deepening knowledge and the effective application of skills in the direction of training and solving specific problems. The quality of its implementation allows us to give a differentiated assessment of the graduate's qualifications, the ability to fulfill their future duties in the organization. If the WRC is carried out at a high theoretical and practical level, it should be presented to the management of the organization, on the basis of which the research was conducted, in order to make a decision on the possibility of implementing the developed measures.

Work on the WRC involves independent performance of qualifying theoretical or applied scientific work, in which, on the basis of the author's generalization and analysis of scientific and practical information, author's research, tasks that are important for a certain field of knowledge are solved. WRC belongs to the category of educational and research work, is carried out by the student on the basis of materials collected during the period of study in the magistracy and in the process of research practice.

The WRC should confirm the author's ability to independently conduct a scientific search, using theoretical knowledge and practical skills, to identify and formulate professional problems, to know the methods and techniques for solving them. The content of the work can be the results of theoretical research, the development of new methods and methodological approaches to solving scientific problems, solving problems of an applied nature.

Scientific research is based on the use of the following concepts, which should not be confused.

**Law** has the form of universality as an objectively existing connection of processes or phenomena.

**Fact**- an event or phenomenon that serves as the basis or confirmation of the hypothesis, this is the main element of the WRC, which must have reliability, novelty, accuracy and significance; established and proven on the basis of existing knowledge.

**Principle**- the main provision of any theory used to substantiate the proposed approaches.

**Problem**- a generalized set of formulated scientific questions as an area for future research, corresponds to the formulation and solution of major problems of a theoretical and applied nature that require the acquisition of new knowledge. It is this concept - the problem - that students confuse, referring to it the tasks and issues to be solved.

**An object research** is a process or phenomenon that generates a problem situation and is chosen for study.

**Itemresearch-** this is what is within the boundaries of the object.

The object and subject of research are related to each other as general and particular: in the object, the part that serves as the subject of research is singled out. For example: the object is a city polyclinic, the subject is the organization of public services for the provision of quality medical care.

Master's WQR differs from Bachelor's WQR by a thorough theoretical study of the problem, and from a specialist's thesis work by the scientific focus of the research.

### **Registration of final qualifying work**

The text of the next chapter (section, paragraph) must be drawn up as soon as certain material has been accumulated on it, an analysis of theoretical and (or) practical information has been carried out, and calculations have been performed. The text may be preliminary, the chapter or section is designed in the form of the first edition. The written formulation of mental ideas helps the applicant to consistently achieve a solution to the problem, improve the structure of the work, and concretize the ways of further research.

Each chapter of the WRC should be completed with brief conclusions that summarize the results of individual stages of the study and on which the formulation of the main scientific results and practical recommendations of the scientific study as a whole is based.

Master's WRC seal. The WRC is printed on one side of a sheet of white A4 paper. Typing on a computer is carried out using a text editor Word. In this case, it is recommended to use fonts like Times New Roman with a size of 14 points.

The headings of the structural parts of the WRC "Contents", "Introduction", "Chapter 1", etc. are printed in capital letters in the middle of the lines, using a bold font with a size of 1-2 points larger than the font in the main text. Section headings are printed in lowercase letters with a paragraph indent in bold type with a size of 1-2 points more than in the main text. Paragraph headings are printed with a paragraph indent in lowercase letters (except for the first capital) in bold type, comparable to the font size of the main text. Do not put a dot at the end of headings of chapters, sections and paragraphs. If the heading consists of two or more sentences, they are separated by a dot(s). Each structural part of the WRC should start from a new sheet.

Numbering of pages, chapters, sections and paragraphs. Pages are numbered in Arabic numerals. The first page of the WRC is the title page, which is included in the general pagination of the study. On the title page, the page number is not put; on subsequent sheets, the number is put down in the center of the bottom of the sheet without a dot at the end. The numbering of chapters, sections, paragraphs,

figures, tables, formulas, equations is given in Arabic numerals without the "No" sign.

Sections are numbered within each chapter. The section number consists of the chapter number and the serial number of the section, separated by a dot, for example: "2.3" (the third section of the second chapter).

Paragraphs are numbered within each section. The paragraph number consists of the serial numbers of the chapter and section. For example: "§ 1.3.2" (second paragraph of the third section of the first chapter).

Design and numbering of figures, tables and formulas. Illustrations and tables should be placed in the WRC directly on the page with the text after the paragraph in which they are mentioned for the first time, or separately on the next page. They should be located so that they can be conveniently viewed without turning the WRC or turning clockwise. Illustrations and tables, which are located on separate sheets of the WRC, are included in the general page numbering. If their dimensions are larger than A4, they are placed on an A3 sheet and counted as one page.

Illustrations and tables are designated respectively by the words "figure" and "table" and are numbered sequentially within each chapter. All tables and illustrations should be referenced in the text of the WRC. The words "figure", "table" in the captions to the figure, table and in references to them are not abbreviated.

The number of the illustration (table) must consist of the number of the chapter and the ordinal number of the illustration (table), separated by a dot. For example: "figure 1.2" (the second figure of the first chapter). If only one illustration (table) is given in the chapters of the WRC, then they are numbered sequentially within the work as a whole, for example: "Figure 1", "Table 3".

When designing tables, you must follow the following rules:

- it is allowed to use in the table a font 1-2 points smaller than in the text of the work;
- the column "Sequence number" should not be included in the table;
- a table with a large number of rows can be transferred to the next sheet.
- when transferring part of the table to another sheet, its heading is indicated once above the first part, the word "Continuation" is written above the other parts on the left;
- column and line headings should be written with a capital letter in the singular, and graph subheadings should be written with a lowercase letter if they form one sentence with the heading, and with a capital letter if they have an

independent meaning. It is allowed to number the columns with Arabic numerals if it is necessary to give references to them in the text of the WRC.

Formulas and equations in the WRC (if there are more than one) are numbered within the chapter. The formula (equation) number consists of the chapter number and the ordinal number of the formula (equation) in the chapter, separated by a dot. The numbers of formulas (equations) are written in parentheses at the right margin of the sheet at the level of the formula (equation), for example: "(3.1)" the first formula of the third chapter.

When drawing up formulas and equations, the following rules must be observed:

- formulas and equations should be separated from the text on a separate line. Above and below each formula and equation, one free line is left;
- if the formula or equation does not fit on one line, it must be wrapped after the equal sign (=) or after the plus (+), minus (-), multiplication (x), and division (:) signs. At the same time, the sign is repeated at the beginning of the next line;
- references to formulas in the text of the WRC are given in brackets;
- an explanation of the meanings of the symbols and numerical coefficients included in the formula or equation should be given directly below the formula or equation in the same sequence as they are given in the formula (equation). The value of each symbol and numerical coefficient should be given on a new line. The first line of explanation begins with the words "where" without a colon.

### **Guidelines for the content of the final qualification work**

**Title page** contains the full name of the educational institution; faculty and department where the work is performed, surname, name and patronymic of the author; job title; code and direction of specialty; academic degree, title, last name, first name, patronymic of the supervisor and (or) consultant, city and year of registration of the work. The title page of the WRC must contain the signatures of the supervisor and the Director of the Department on the admission of the work to the defense.

**annotation** makes it possible to get an idea of the content of the WRC and determine the interest in it before reading its full text. The length ranges from 500 to 1000 characters. The abstract should reveal the essence of the scientific problem considered in the work and include the main research conclusion. It should clearly and briefly outline the subject and objectives of the study, its methodology, novelty and main results. Experience shows that the most difficult thing for the author when preparing an abstract is to present briefly the results of his work. Therefore,



one of the proven versions of the annotation is a brief repetition of the structure of the work in it, including the introduction, goals and objectives, methods, results, and conclusion.

**Content**, given at the beginning of the work, makes it possible to see the structure of the study. The content includes the headings of the structural parts of the WRC (names of all chapters and paragraphs) indicating the page number on which the beginning of the material of the corresponding part of the master's work is placed.

**Introduction.** The introduction to the WRC should contain: relevance of the topic; object of study; subject of study; purpose of the study; research objectives; research methods, reliability and validity of the results; the novelty of the provisions submitted for defense; personal contribution of the author; practical significance of the results; implementation of work results (if any); approbation of work (if any); publications (if any); structure and scope of work. In addition, the introduction may contain a brief assessment of the current state of the problem or task being solved, the connection of the work with other scientific areas in the economy. Thus, the introduction is a very important part of the WRC, since it not only guides the reader in further disclosure of the topic, but also contains all the necessary qualification characteristics.

The relevance of the topic is a mandatory requirement for any WRC. As applied to the WRC, the concept of "relevance" has one peculiarity. WRC, as already mentioned, is a qualifying work, and how its author is able to choose a topic and how correctly he understands and evaluates this topic in terms of timeliness and social significance characterizes his scientific maturity and professional readiness.

Relevance coverage should be within 1 page. The undergraduate needs to show what the essence of the problem situation is. To do this, he needs to determine where the border between knowledge and ignorance about the subject of research passes. In this case, it will not be difficult for him to clearly and unambiguously define the scientific and practical problem, and, consequently, to formulate its essence. A specific feature of the problem is that in order to solve it, it is necessary to go beyond the old, already achieved knowledge.

To analyze the state of development of the chosen topic, a brief review of literary and other information sources is compiled, which should eventually lead to the conclusion that this particular topic has not yet been disclosed (or has been disclosed only partially or in the wrong aspect) and therefore needs further development.

After formulating the problem and proving that that part of this problem, which is the topic of this WRC, has not yet received its development and coverage

in the specialized literature, the purpose of the study is formulated, and the main tasks to be solved to achieve this goal are indicated. This is usually done in enumeration form (explore., describe., establish., reveal., etc.). The formulation of these tasks should be done as carefully as possible, since the description of their solution should form the content of the chapters of the WRC. This is also important because the headings of such chapters are born precisely from the formulation of the research objectives.

A mandatory element of the introduction is the formulation of the object and subject of research. An object is a process or phenomenon that generates a problem situation and is chosen for study. The subject is something that is within the boundaries of the object and is subject to detailed study. The object and subject of research as categories of the scientific process are related to each other as general and particular. In the object, that part of it is singled out, which serves as the subject of research. It is on him that the main attention of the master is directed, it is the subject of research that determines the theme of the WRC.

An obligatory element of the introduction of the WRC is also an indication of research methods that serve as a tool in obtaining factual material, being a necessary condition for achieving the goal set in such work.

It is also necessary to substantiate the reliability of the obtained scientific and practical results.

Novelty is one of the main requirements for the subject of the WRC. This means that it must contain a solution to a new scientific and practical problem or new developments that expand the existing boundaries of knowledge in this industry.

The introduction also indicates: practical value - new results of an applied nature that can be used in practice (methods, information technologies, software, etc.) and what it gives (economic effect, reduction of time and material costs, a comprehensive solution tasks, etc.); provisions submitted for defense, i.e. those new and significant results, the discussion of which allows us to evaluate the significance and quality of the work performed; approbation of the results - reflects participation in seminars and conferences (list), at which the main provisions of the work were discussed.

The main results of the study can be published in various journals, collections, etc., the number of publications is also indicated in the introduction of the WRC.

At the end of the introductory part, it is desirable to disclose the structure of the WRC, i.e. give a list of its structural elements and justify the sequence of their location. The volume of the introduction is usually three to four pages.

**Main chapters.**In the chapters of the main part of the WRC, the methodology and technique of the study are discussed in detail and the results are summarized. The content of the chapters of the main part must exactly correspond to the theme of the WRC and fully disclose it. These chapters should show the ability of the undergraduate to present the material concisely, logically and reasoned. The presentation and design of the material must comply with the requirements for papers sent for publication.

The main part of the WRC should contain data reflecting the purpose, objectives, essence, methodology and main results of the work performed:

1. substantiation of the choice of direction, purpose and objectives of the study, methods for solving problems and their comparative assessment, development of a general methodology for conducting work;

2. theoretical, analytical and experimental studies, including the determination of the nature and content of theoretical studies, methods of research and calculation, justification for the need for experimental work, the principles of operation of the developed objects, their characteristics, justification of the chosen metrological support for work, data on measurement objects, measured quantities and measuring instruments, their metrological characteristics, assessment of the correctness and efficiency of measuring instruments, assessment of measurement error, obtained experimental data;

3. analysis, generalization and evaluation of research results, including an assessment of the completeness of the solution of the tasks set, and proposals for further areas of work, an assessment of the reliability of the results obtained and their comparison with similar results of domestic and foreign works, justification for the need for additional research, negative results leading to the need to stop further research.

As a rule, the first section of the WRC includes a description and analysis of the object of study, as well as a systematic analysis of the source information - domestic and foreign literary sources, patents and copyright certificates for inventions, research and development work of the issuing Department or other departments of the university, enterprises, organizations or research institutes.

In the analytical review of the source information in chronological order, i.e. in order to develop knowledge on the issue under study, provide a brief description and analysis of all sources of scientific and technical information. If a master student is studying several issues, then each issue should be considered separately, introducing the appropriate number of subsections, paragraphs and subparagraphs into the WRC. After reviewing several works, it is necessary to critically compare the points of view of their authors, assess the state of the issue under study, express their opinion on the reliability and sufficiency of the literature and other data, on

research methods, on doubtful, contradictory or erroneous statements and conclusions.

At the end of the analysis, brief conclusions are drawn, in which the state of the issue is fixed, a working hypothesis is given and the main directions in which further research should be carried out.

In conclusion, they formulate the purpose and objectives of the study to be carried out by the undergraduate.

In the second section, a research methodology is developed for theoretical, analytical and experimental solutions to the tasks. For example, for works of a research nature, it is recommended to develop and present a research methodology in the WRC according to the following scheme:

a) criteria for evaluating the effectiveness of the object under study (method, process, device, technology, system); b) parameters controlled during research; c) software, equipment, experimental facilities, devices, equipment, equipment; d) conditions and procedure for conducting experiments; e) the composition of the experiments; f) mathematical planning of experiments; g) processing of research results and their analysis.

In the third section, the research results are presented in the form of tables, mathematical dependencies, graphs, diagrams (bar, sector, tape), histograms, practical and theoretical distribution curves, nomograms, photographs, oscillograms, computer printouts and other materials. Currently, applied software tools are widely used, which can significantly reduce the time spent on processing, designing and graphical interpretation of research results.

All research results, including negative ones, should be described in the WRC with the statement of the researcher's own point of view. As a rule, the description of the results of the study is carried out in accordance with the composition and plan of experiments. For illustration, diagrams, drawings, graphs, diagrams, photographs are given.

The main task of the final section of the WRC is to substantiate the issues of economic or other efficiency of the results of the work and recommendations for their implementation. The calculation of the economic efficiency of using in practice the results of research work, development work or the implementation of recommendations developed as a result of research work is carried out in accordance with the methods for determining the economic efficiency of using new technology in the national economy. When comparing options for technology and organization of research, it is allowed to carry out integrated economic calculations or make decisions based on the recommendations of the literature or the graduating department.

In the case of the introduction of undergraduate developments into practice, their actual economic or other efficiency is determined according to the indicators of the current production or process (object). The calculation may also include an analysis of the socio-economic and environmental effects from the introduction of the proposed developments (taking into account the costs of research and development). At the end of each chapter, the conclusions of the study are indicated. Conclusions should be formulated in three main directions:

- novelty;
- the possibilities and results of experimental (or wide, if the experiment has already been carried out) application;
- the degree of agreement between theoretical results and experimental data and the reasons for the discrepancy.

The conclusions for each chapter should be concise, with specific data on the results. General phrases that mean nothing words should be excluded from the wording.

**Conclusions and main results of the study.** The WRC ends with a concluding part. This part of the WRC is determined by the logic of the research and is in the form of a synthesis of the scientific information accumulated in the main part, contains a consistent, logically coherent presentation of the results obtained and their relationship with the general goal and specific tasks set and formulated in the introduction. It is here that the so-called “inferential” knowledge is contained, which is new in relation to the original knowledge, and which is submitted for discussion and evaluation in the process of public defense of the WRC.

**Conclusions** should contain:

- brief conclusions on the results of the studies performed or their individual stages, assessment of the completeness of the solutions to the tasks set, development of recommendations and initial data on the specific use of the results of scientific research, assessment of the technical, economic and environmental efficiency of using the developments of the undergraduate in the national economy. If the definition of technical and economic efficiency is impossible, the national economic, scientific, social significance of the WRC should be indicated;
- assessment of the scientific and technical level of the work performed in comparison with the best achievements in this field.

The content of the conclusion should not be replaced by a mechanical summary of the conclusions at the end of the chapters, representing a brief summary, but should contain something new, significant, which constitutes the final results of the study, which are often presented in the form of a number of numbered paragraphs. Their sequence is determined by the logic of the

construction of scientific research. At the same time, not only its scientific novelty and theoretical significance, but also practical value, arising from the final results, is indicated.

The final part also assumes the presence of a generalized final assessment of the work done. At the same time, it is important to indicate what its main meaning is, what important side scientific results have been obtained, what new scientific tasks arise in connection with scientific research. The final part, drawn up according to such a plan, complements the description of the theoretical level of the WRC, and also shows the level of professional maturity and scientific qualifications of its author. The conclusion may also include practical suggestions, which increases the value of theoretical materials. In some cases, it becomes necessary to indicate the ways to continue the topic under study, the forms and methods of its further study, as well as specific tasks that future researchers will have to solve in the first place.

The volume of conclusions and main results of the study should not exceed two or three pages.

**List of used sources.**After the conclusion, it is customary to place a bibliographic list or a list of sources used. This list is one of the essential parts of the WRC and reflects the independent creative work of the undergraduate. Each literary source included in such a list should be reflected in the scientific work. If its author makes a reference to any borrowed facts or quotes the works of other authors, then he must indicate in the reference where the cited materials are taken from. Do not include in the list those works that are not referenced in the text of the thesis, and which have not actually been used. It is not recommended to include encyclopedias, reference books, popular science books and magazines, newspapers in this list.

**Applications.**The appendix to the WRC may contain reference and illustrative material used by the applicant and necessary for the integrity of the perception of the main content of the final work. The appendix includes materials related to the WRC, which are inappropriate to be included in the main part. In the form of applications, they can be text, tables, graphs, maps, photographs. The volume of annexes to the WRC should not exceed 25 pages. In each case, the composition of the applications is determined by the undergraduate in agreement with the supervisor.

**Graphic material.**The graphic part of the work for submission to the members of the SEC is drawn up in the form of handouts on sheets of A4 format. Graphic material is also prepared for the report in the form of a presentation in Microsoft Office Power Point. The slides must ensure the perception of illustrations and explanations to them at a distance of 45 meters.

It is recommended to prepare as many slides as needed to cover all the main issues within the allotted time, but no less than in the explanatory note. It is allowed to include additional material in slides, for example, photographs, videos.

It is not recommended to overload slides with formulas and words; you need to find the optimal visual form. On average, the saturation of one slide with information should be equivalent to 7-15 lines of text.

When designing the graphic part, it should be borne in mind that during the defense of the WRC, the image is projected onto the screen from a computer monitor. Therefore, it is necessary that the graphic and textual information of the sheets be clearly visible and readable on the monitor screen.

Thinking over which illustrations to include in the report, the undergraduate should consider all the details of the experiment that these illustrations generalize, as well as the reliability, reliability and reproducibility of the results that they generalize.

Each slide should have a heading title, for example, "Problem Statement", "System Block Diagram", etc. The first slide usually gives the title of the topic and the name of the author, as well as the problems, purpose and objectives of the study, the last one lists the main results and conclusions.

When designing slides, you should observe the unity of the style of the entire presentation. The graphic solution of the presentation should be concise and effective, but not pretentious. The type, size and color of the font must be correctly selected. When preparing presentations, you should use such Power Point features as visualization of technological processes and technical objects, gradual introduction and emphasis of material. Animation effects should not be overused. All materials, both graphic and explanatory notes, must be made in accordance with applicable standards.

## **Recommended literature and information and methodological support**

### **Main literature:**

1. Andrusenko, S. F. Biochemistry and molecular biology: a teaching aid / S. F. Andrusenko, E. V. Denisova. - Stavropol: North Caucasian Federal University, 2015. - 94 p. <https://lib.dvfu.ru/lib/item?id=IPRbooks:IPRbooks-63077&theme=FEFU>

2. Ivanishchev, V.V. Molecular biology: textbook / V.V. Ivanishchev. - Moscow: RIOR: INFRA-M, 2019. - (Higher education). — 225 p. <https://lib.dvfu.ru/lib/item?id=Znanium:Znanium-1019421&theme=FEFU>

3. Konichev, A. S. Molecular biology: a textbook for universities / A. S. Konichev, G. A. Sevastyanova, I. L. Tsvetkov. - 5th ed. - Moscow: Yurayt

Publishing House, 2021. - 422 p. - (Higher education). - ISBN 978-5-534-13468-1. — Text: electronic // Educational platform Urayt [website]. - url:<https://lib.dvfu.ru/lib/item?id=Urait:Urait-459165&theme=FEFU>

4. Molecular biology. Practicum: textbook for universities / A. S. Konichev [and others]; edited by A. S. Konichev. - 2nd ed. - Moscow: Yurayt Publishing House, 2020. - 169 p. [p.https://lib.dvfu.ru/lib/item?id=Urait:Urait-448124&theme=FEFU](https://lib.dvfu.ru/lib/item?id=Urait:Urait-448124&theme=FEFU)

5. Proshkina, E. N. Molecular biology: cell stress responses: a textbook for universities / E. N. Proshkina, I. N. Yuraneva, A. A. Moskalev. - Moscow: Yurayt Publishing House, 2020. - 101 p. - (Higher education) <https://lib.dvfu.ru/lib/item?id=Urait:Urait-454873&theme=FEFU>

6. Spirin A.S. Molecular biology. Ribosomes and protein biosynthesis: textbook / Moscow: Knowledge Laboratory, [2019] 575 p., [8] f. ill. <https://lib.dvfu.ru/lib/item?id=chamo:876385&theme=FEFU>

7. Subbotina, T. N. Molecular biology and genetic engineering: workshop / T. N. Subbotina, P. A. Nikolaeva, A. E. Harsekina. - Krasnoyarsk: Siberian Federal University, 2018. - 60 p. <https://lib.dvfu.ru/lib/item?id=IPRbooks:IPRbooks-84253&theme=FEFU>

#### **Additional literature:**

1. Rhizobiaceae. Molecular biology of bacteria interacting with plants / [J. Trampoline, A. Becker, van P. Berkum and others]; ed. Herman Spink, Adam Condoroshi, Paul Hukas.- St. Petersburg 2002.- 568 p. <https://lib.dvfu.ru/lib/item?id=chamo:253931&theme=FEFU>

2. William H. Elliott Biochemistry and Molecular Biology / William H. Elliott, Daphne C. Elliott. Oxford New York Melbourne: Oxford University Press, 1997. XXV, 437 p. <https://lib.dvfu.ru/lib/item?id=chamo:21314&theme=FEFU>

3. Belozersky A.N. Molecular biology - a new stage in the knowledge of nature / A.N. Belozersky. - Moscow: Soviet Russia, 1970. - 190 p. <https://lib.dvfu.ru/lib/item?id=chamo:71783&theme=FEFU>

4. Issues of biosynthesis, structure and functions of biopolymers: republican interdepartmental collection / Academy of Sciences of the Ukrainian SSR. Kyiv: Naukova Dumka, 1967. - 247 p. <https://lib.dvfu.ru/lib/item?id=chamo:131745&theme=FEFU>

5. JD Watson Molecular Biology of the Gene / JD Watson ; per. from English. V. A. Engelhardt. Moscow: Mir, 1978. 720 p. <https://lib.dvfu.ru/lib/item?id=chamo:64399&theme=FEFU>

6. Konichev A. S. Molecular biology: a textbook for universities / A. S. Konichev, G. A. Sevastyanova. Moscow: Academy, 2005. - 398 p. <https://lib.dvfu.ru/lib/item?id=chamo:245181&theme=FEFU>



7. Molecular biology. Structure and function of biopolymers. Biological membranes: Republican interdepartmental collection. Issue. 25 / AN Ukrainian SSR. Institute of Molecular Biology and Genetics.- Kyiv: Naukova Dumka, 1980.- 08 c.<https://lib.dvfu.ru/lib/item?id=chamo:129813&theme=FEFU>

8. Applied molecular biology / V.I.Alekseev, V.A.Kaminsky Vladivostok: Dalrybvtuz, 2002.- 196 p.<https://lib.dvfu.ru/lib/item?id=chamo:384674&theme=FEFU>

9. Applied molecular biology: textbook for universities / V. I. Alekseev, V. A. Kaminsky; Far Eastern State Technical Fisheries University.- Vladivostok: Publishing House of the Far Eastern Technical Fisheries University, 2011.- 238 p.<https://lib.dvfu.ru/lib/item?id=chamo:425474&theme=FEFU>

10. Stepanov, V. M. Molecular biology. Structure and function of proteins: textbook / VM Stepanov; edited by A. S. Spirin. - Moscow: Moscow State University named after M.V. Lomonosov, 2005. - 336 p.<https://lib.dvfu.ru/lib/item?id=IPRbooks:IPRbooks-13144&theme=FEFU>



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**INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)**

**DEPARTMENT OF MEDICAL BIOLOGY AND BIOTECHNOLOGY**

**Full Name**

TOPIC NAME  
FINAL QUALIFICATION WORK

**FINAL QUALIFICATION WORK**

on the main educational program for the preparation of masters  
in the direction of training 06.04.01 Biology,  
Master's program "Molecular and Cell Biology (in English)"

Vladivostok  
20\_\_

The author of the work is student gr. M \_\_\_\_\_  
signature  
" \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

Head of WRC \_\_\_\_\_  
(position, academic title)

\_\_\_\_\_  
(signature) (full name)  
" \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

Protected in the SEC with an assessment

\_\_\_\_\_  
Secretary of the SEC

\_\_\_\_\_  
signature I.O. Surname

" \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

"Admit to the defense"

Department Director \_\_\_\_\_  
(academic title)

\_\_\_\_\_  
(signature) (full name)

" \_\_\_\_\_ " \_\_\_\_\_ 20\_\_



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**INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)**

**DEPARTMENT OF MEDICAL BIOLOGY AND BIOTECHNOLOGY**

**EXERCISE**  
for graduate work

student (s) Surname First name Patronymic (Danish case) group M \_\_\_\_\_  
(Full Name)

on the topic *Name of WRC topic*

Questions to be developed (research):

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The main sources of information and others used to develop the theme:

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Deadline for submission of work " \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

Date of issue of the task " \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

Head of WRC \_\_\_\_\_  
(position, academic title)(signature) (a.o.f)

Task received \_\_\_\_\_  
(signature) (a.o.f)

APPENDIX 3. Training schedule template  
final qualifying work



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**INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)**

**DEPARTMENT OF MEDICAL BIOLOGY AND BIOTECHNOLOGY**

**SCHEDULE**

preparation and registration of the final qualification work

student(s) Surname First name Patronymic (Danish case) group M \_\_\_\_\_  
(Full Name)

on the topic *Name of WRC topic*

No. p / p	Performed works and activities	Deadline	Completion mark
1	Choice of topic and coordination with the head		
2	Drawing up a work plan. Selection of primary material, its study and processing. Preparation of a preliminary bibliography		
3	Development and presentation to the head of the first part of the work		
4	Preparation of tasks for undergraduate practice and collection of material for the implementation of the WRC		
5	Development and presentation to the head of the second part of the work		
6	Development and presentation to the head of the third part of the work		
7	Preparation and coordination with the head of conclusions, introductions and conclusions. Preparation of the presentation of the work		
8	Finalization of WRC in accordance with the comments of the head		
9	The first check of VKR in the Anti-Plagiarism system		
10	Correction of possible fragments of plagiarism		
ele ven	Pre-defense of the WRC at a meeting of the graduating department		
12	Finalization of the WRC in accordance with the comments made at the pre-defense		
13	The second check of the WRC in the Anti-Plagiarism system and submission to the supervisor for verification in order to receive feedback		
14	Completion of preparation for the defense (report, handout, presentation in Power Point)		

Student \_\_\_\_\_  
(signature) (acting surname)

" \_\_\_ " \_\_\_\_\_ 20\_\_

Head of WRC \_\_\_\_\_

(position, academic title)

(signature) (acting surname)

" \_\_\_\_\_ " \_\_\_\_\_ 20\_\_







## APPENDIX 5. Template for the review of the final qualifying work



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**INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)**

**DEPARTMENT OF MEDICAL BIOLOGY AND BIOTECHNOLOGY**

### REVIEW

for the final qualifying work of the student (s) Surname First name Patronymic (Danish case)\_\_\_

\_\_\_\_\_ (Full Name)

specialty (direction)06.04.01 Biology,  
Master's program "Molecular and Cell Biology (in English)",  
group M \_\_\_\_\_

Head of WRC \_\_\_\_\_  
(academic degree, academic title, acting name)

on the topic \_\_\_\_\_ Name of WRC topic

WRC defense date "\_\_\_" \_\_\_\_\_ 20\_\_ G.

<b>1. Relevance of WRC</b>
<b>2. Advantages of work:</b>
<b>3. Disadvantages and remarks:</b>
<b>4. Appropriateness:</b>
<b>5. General conclusion:</b>

**Grade** \_\_\_\_\_

**Reviewer** \_\_\_\_\_

(position, academic title) (signature) (full name)

"\_\_\_" \_\_\_\_\_ 20\_\_

Chairman of the Appeal Commission

\_\_\_\_\_ position, full name

group student \_\_\_\_\_

\_\_\_\_\_ name of FEFU school

\_\_\_\_\_ FULL NAME.

**APPEALS**

**on violation of the procedure for conducting the state certification test and / or on disagreement with the results of the state certification test**

I ask you to consider my appeal about the violation of the procedure for conducting a state certification test \_\_\_\_\_  
(state exam or WRC defense)

and / or disagreement with the results of the state attestation test  
\_\_\_\_\_  
(state exam or WRC defense)

in the direction of training / specialty \_\_\_\_\_  
(code, name)

\_\_\_\_\_ ,  
held " \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

Content of the claim:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The indicated fact(s) made it significantly difficult for me to complete the tasks (the defense of the WRC), which could lead to a biased assessment (for an appeal about a violation of the procedure for conducting a state attestation test).

Based on the foregoing, I consider the assessment given to me unreasonable and ask you to reconsider the results \_\_\_\_\_  
(state exam or WRC defense)

*(for an appeal of disagreement with the results of the state certification test).*

Signature

Date: " \_\_\_\_\_ " \_\_\_\_\_ 20\_\_

APPENDIX 7 Form of conclusion of the Chairman of the SEC  
on compliance with procedural issues during the state certification test

**Conclusion**

Chairman of the State Examination Commission  
on the observance of procedural issues during the  
state attestation test

**Direction of training / (specialty)** \_\_\_\_\_  
(code, name)

**Form of the state attestation test:** \_\_\_\_\_  
(state exam or WRC defense)

**Date and time of the event:** " \_\_\_\_ " \_\_\_\_\_ 20\_\_  
from \_\_\_\_ h. \_\_\_\_ min. up to \_\_\_\_ h. \_\_\_\_ min.

During the state certification test (indicate the specific form of the state certification test), there were no violations of procedural issues / the following violations of procedural issues were committed (indicate specific facts of violation of procedural issues):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Chairman of the SEC**

\_\_\_\_\_  
(academic degree, title, position)      (signature)      (full name)



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Federal State Autonomous Educational Institution of Higher Education  
**"Far Eastern Federal University"**  
(FEFU)

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**INSTITUTE OF LIFE SCIENCES AND BIOMEDICINE (SCHOOL)**

**DEPARTMENT OF MEDICAL BIOLOGY AND BIOTECHNOLOGY**

MINUTES No. \_\_\_\_\_ dated " \_\_\_\_\_ " \_\_\_\_\_ 20\_\_\_\_  
**Board of Appeal meetings**

**in the direction of training (specialty)** \_\_\_\_\_  
(code, name)

**PRESENT:**  
**Chairman** \_\_\_\_\_ **of** \_\_\_\_\_ **the** \_\_\_\_\_ **commission:**  
**Commission** \_\_\_\_\_ **members:**

**1. Listened to the student's appeal statement** \_\_\_\_\_  
(full name, group)

about violation of the procedure for conducting the state attestation test  
\_\_\_\_\_ and / or about disagreement with the results  
(state exam or WRC defense)

state attestation test \_\_\_\_\_  
(state exam or WRC defense)

**Attached to the application:**  
minutes of the SEC meeting;  
the conclusion of the chairman of the SEC on compliance with procedural issues during the state certification test;  
written responses of the student (if any) (for consideration of the appeal for the state exam);  
WRC, review and review (reviews) (for consideration of an appeal on the defense of the WRC).

**2. Resolved:** (you must select the appropriate option(s))  
Reject the appeal, leave the results of the state attestation test unchanged.  
Satisfy the appeal. Cancel the results of the state attestation test. Student

\_\_\_\_\_ provide an opportunity to pass the relevant state certification test again in additional terms (for appeal on *violation of the procedure for conducting the state attestation test*). Satisfy the appeal. Cancel the results of the state attestation test. Submit for passing state attestation \_\_\_\_\_ test

\_\_\_\_\_ (state exam or WRC defense)

assessment \_\_\_\_\_ (for appeal \_\_\_\_\_)

(excellent, good, satisfactory, unsatisfactory)

*on disagreement with the results of the state attestation test*).

**Chairman of the Appeal Commission**

\_\_\_\_\_ (job title)

\_\_\_\_\_ (signature)

\_\_\_\_\_ (full name)