

# Microbiology

Far Eastern Federal University

Degree or qualification is awarded: **Candidate of Sciences**

Language of study: **Russian**

Mode of study: **full-time, part-time**

Duration: **4 years**

Availability of free education: **yes**

Price: **320 000 rub per year (full-time) / 160 000 rub per year (part-time)**

Programme webpage at the university website:

<https://www.dvfu.ru/upload/medialibrary/a06/%D0%9F%D0%B5%D1%80%D0%B5%D1%87%D0%B5%D0%BD%D1%8C%D0%BF%D1%80%D0%BE%D0%B3%D1%80%D0%B0%D0%BC%D0%BC%20%D0%B0%D1%81%D0%BF%D0%B8%D1%80%D0%B0%D0%BD%D1%82%D1%83%D1%80%D1%8B,%20%D0%BE%D0%B1%D1%8A%D1%8F%D0%B2%D0%BB%D0%B5%D0%BD%D0%BD%D1%8B%D1%85%20%D0%B2%20%D0%BD%D0%B0%D0%B1%D0%BE%D1%80%202020%20%D0%B3%D0%BE%D0%B4%D0%B0.pdf>

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The purpose of educational program is in acquisition a level of competences that are necessary for the implementation of professional activities and in preparation for the defense of a scientific qualification work (dissertation) for the degree of candidate of sciences.

One of the most important tasks of the educational program "Microbiology" is the building universal, general professional and professional skills of graduate student, allowing him to become a highly professional specialist in the chosen field of scientific research. Also a non-trivial task is to develop in graduate students such qualities as: the ability to plan, carry out and analyze experimental research on the chosen graduate program; to form the skills of critical analysis and creative imagination, which allow combining research and expert competences when writing a dissertation.

The professional competences of microbiological, genetic, molecular and cytological research provides the graduate of the Microbiology profile the opportunity to successfully develop and industrialize biological products based on microorganisms, to ensure the biological safety of enterprises, to organize and conduct sanitary control and product quality control. In environmental laboratories and organizations, graduates of the Microbiology program can carry out biomonitoring and biological control over the state of the natural environment, assess anthropogenic impacts on it, design and carry out events for nature protection.

The objects of professional activity of graduates who have mastered the postgraduate program are: biological systems of various levels of organization, the processes of their life and evolution; biological, bioengineering, biomedical, nature conservation technologies, biospheric functions of soils; biological expertise and monitoring, assessment and restoration of territorial biological resources and the natural environment.

The graduates who have mastered the postgraduate program are preparing for the following types of professional activities:

- research activities in the field of biological sciences;
- teaching activities in the field of biological sciences;
- independent research activity, requiring deep specialized background in the field of microbiology, possession of the skills of modern research methods in this scientific field.

The disciplines of the basic part of the academic plan ("Foreign language" and "History and philosophy of science") form a system of worldview, scientific principles, methodological skills, and a theoretical knowledge base. The choice of disciplines of the variable part ("Organizational and managerial foundations of higher education", "Modern

educational technologies in higher education", "Microbiology", "Methods of statistical processing in microbiological research", "Variability and adaptation of microorganisms", "Bacterial biofilms" and "Genomics and proteomics of microorganisms") provides the necessary general professional competencies of the graduate and meets the requirements of the modern labor market. The disciplines of the variable part of the program are aimed to teaching graduate students how to use molecular genetics, biochemical, immunological, environmental and mathematical methods in their research activities, which allows taking into requests of employers in terms of professional specialization.

The training of postgraduate students of the educational program "Microbiology" is relevant and caused by the great need for microbiologists of enterprises in the region because none of the universities in the Far East produces such specialists nowadays. Formed competences allow a Microbiology profile graduate to find solutions based on an integrated interdisciplinary approach to work and become a leaders in companies whose activities use microorganisms and their life activity products, in environmental organizations, research institutes and higher educational institutions. Microbiologists are in demand in the food, chemical, pharmaceutical industries, in organizations engaged in agriculture, veterinary control, biotechnological production, in sanitary and epidemiological services, in environmental control organizations, scientific and educational institutions, both in our country and abroad.

The need for graduates of the educational program "Microbiology" is always relevant for the following partner organizations of the university: A.V. Zhirmunsky National Scientific Center of Marine Biology FEB RAS, Pacific Institute of Bioorganic Chemistry FEB RAS, Federal Scientific Center of the East Asia Terrestrial Biodiversity FEB RAS, V.I. Ilyichev Pacific Oceanological Institute FEB RAS, Pacific Branch of the "VNIRO", G.P. Somov Research Institute of Epidemiology and Microbiology SB RAMS, TAFI-diagnostics, UNILAB, Ratimir LLC, Ussuriyskiy Oil and Fat Plant CJSC, SABMiller Rus LLC, Ice Cream Factory LLC, Vladkhleb OJSC and many others.

## **Specializations within this programme**