

# Applied Mathematics and Physics

South Ural State University

Degree or qualification is awarded: **Master's degree**

Language of study: **Russian**

Mode of study: **full-time**

Duration: **2 years**

Availability of free education: **yes**

Price: **172 700 rubles**

Programme webpage at the university website:

<https://www.susu.ru/en/education/masters-degree-programs/applied-mathematics-and-physics-biophotonics-and-physical-methods>

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The aim of the program is to combine knowledge in the field of physics, mathematics, biology, and medicine, necessary for a deep understanding of the phenomena of nature, which are the basis of methods of treatment, diagnosis, and research of the human beings.

The physics program will highlight the fields of physics needed to understand optical techniques, including laser techniques, ultrasonic techniques, radiography, nuclear magnetic resonance, and an overview of the fundamental laws of physics. The block of mathematical disciplines is designed to understand the mathematical methods required in physics, biology, and medicine.

The block of biomedical disciplines is designed for a deep understanding of the characteristics of the human being, its structure, and development. The block includes subjects of various fields of biology, which are necessary for the formation of a systematic understanding of the processes in a living organism. Special attention is focused at cell and molecular biology, as knowledge of these disciplines allows us to choose the most effective physical method. And the study of these disciplines is primarily focused on the impact of physical methods on biomolecules and cells.

The program is designed for professionals with a basic knowledge of physics, mathematics, and biomedicine. It is aimed at training specialists who understand the basic principles of physical methods that are used in practical medicine for diagnosis and treatment, as well as in fundamental medicine for the study of the human being and the development of new methods of diagnosis and therapy.

## Specializations within this programme

### **Applied Mathematics and Physics (Biophotonics and Physical Methods for Human Beings)**

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