

## The annotation of the master's program "Fundamental Mathematics"

Training direction: 01.04.01 Mathematics

Faculty: Mechanical and mathematical

Training form: Full-time education

Duration of the program: 2 years

Language of education: Russian/English

### Program concept

The master's program in «Fundamental Mathematics» during 2 years prepares highly professional specialists in fundamental mathematics. The program graduates receive a diploma of state sample - the diploma of Master of mathematics of Tomsk State University (TSU, Russia). Training process takes place on the basis of Tomsk State University during 4 semesters. The 1-st, 2-nd and 3-rd semesters will be devoted to basic training, the 4-th semester will be used for the design of a master's thesis.

### Mission of program

The educational process of the master's program aims to develop student's personal qualities and the formation of general cultural (general scientific, social personal) and professional competencies in accordance with the state standards of higher education for direction of preparation "Mathematics".

The master's program "Fundamental Mathematics" allows to gain deep knowledge in the field of theoretical mathematics, to acquire the skills of research work in the field of mathematics and to study various mathematical methods for applications in related fields. Students also receive teaching skills. Later all of it will be useful in the professional activities of master's degree graduates.

### Area of professional activity

1. Research activities in academic institutions and innovative organizations that use mathematical methods and computational technologies to solve fundamental and applied problems of mathematical modeling of processes and objects;
2. Software and information support for scientific, research, design and operational and management activities in various industries;
3. Teaching a cycle of mathematical disciplines and computer science in higher educational institutions.

## Brief description of the program's content

The program contains general scientific disciplines ("Philosophy and methodology of scientific knowledge", "Foreign language in the professional field of activity", "Modern computer technologies", and special ones ("Categories Theory", "Additional Chapters of Functional Analysis", "Algebra and geometry of Grobner bases", "Modern methods of analysis and data visualization", "Operational calculus").

There are also courses on a number of modern branches of mathematics (algebra, geometry and topology, functional analysis, complex analysis, probability theory and mathematical statistics, computational mathematics) by the student's choice.

A significant number of hours are devoted to the research work of students.

A work practice is provided.

A final state certification in form of the defence of master's theses under the program "Fundamental Mathematics" will be held at meeting of the State examination commission of TSU.

## Program resources

The Fundamental Mathematics program is taught by highly qualified Doctors and Candidates of Science in Mathematics. When teaching, the resources of the educational and computing laboratory of the faculty are used, which is equipped with modern computers with Internet access and with preinstalling modern mathematical software.

The work practice is carried out on the basis of scientific, innovative, industrial and educational partner organizations of TSU in Russia.

## Prospects for employment, professional and scientific activities

The program is aimed at training of highly professional specialists, who are capable of conducting design, scientific, informational, analytical activities in Russian and European commercial organizations and research centers.

There is an opportunity to continue education in postgraduate study at TSU or other universities.

## Admission conditions

The student is enrolled on a competitive basis.

The following documents are submitted for the competition:

1. application - motivational letter of the applicant;
2. diploma with a bachelor's degree or a specialist in mathematics and their equivalent;

3. letters of recommendation from the last place of study (work);
4. the necessary documents approved by the admission committee of the TSU.

Applicants take the entrance exam in mathematics and are interviewed in the chosen section of mathematics.

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