

Area of study

**01.03.03 Mechanics and
Mathematical Modeling**
program

**Fundamentals of Mechanical
Engineering**

Degree: *bachelor*

Duration of training: *4 years*

Form of training: *full time*

Language of instruction: *English*

Accreditation: *state*

The educational program "**Fundamentals of Mechanical Engineering**" provides students with fundamentals for further education in leading Russian and foreign universities as well as train researchers in mechanics and mathematical modeling (structural materials research, biomechanics and other leading areas of science and technology, in particular).

You will receive training in mechanics and mathematical modeling.

Experience: you will study the fundamental foundations of mechanics, engineering and mathematical modeling, master powerful tools of classical approaches of mechanics in combination with the use of modern software packages and computational engineering systems (ANSYS, Matlab, Maple, FlexPDE),

Skills: students will develop professional skills in mechanical engineering and biomechanics.

Basic courses:

- Mechanics of Deformable Solids
- Modern Computer Modeling Packages
- Theoretical and Applied Mechanics

Special courses:

- Flat and Spatial Problems of the Theory of Elasticity / Turbulence Models
- Experimental Methods in the Mechanics of Deformable Solids
- Nonlinear Problems of the Theory of Elasticity and Plasticity
- Dynamics of Mechanical Systems / Aeroacoustics

Research areas:

- Investigation of direct and inverse problems for elastic bodies within the framework of modern models
- Study of large deformations of elastic bodies with inhomogeneous properties

Graduates of the program work as researchers, engineers, analysts in companies specializing in research of new structural materials, biomechanics, aviation and shipbuilding, construction, etc.

Contacts of the program director:

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