Division: *Institute of Natural Sciences and Mathematics, Department of Computational Mechanics*

Academic programme: *01.03.03 Mechanics and Mathematical Modelling, Mathematical Modelling and Computer Technologies*

Programme length: *4 years, state-funded/contract-based*

Mode of study: *full-time*

Programme level: *Bachelor's degree*

Language of instruction: *Russian*

Main programme-specific classes:

- Fundamentals of Continuum Mechanics
- Numerical Methods of Continuum Mechanics
- Hydromechanics
- Mathematical Models in Continuum Mechanics
- Heat Exchange Theory
- Gas Dynamics
- Fundamentals of Combustion Theory
- Application of Computer Technologies in Continuum Mechanics
- Calculation Methods
- Introduction to Plasma Hydrodynamics
- Fundamentals of the Theory of Strength and Fracture Mechanics
- Mechanics of High-speed Processes

Programme description: *Graduates of this major have fundamental knowledge in mathematics, mechanics and computer science, the skills of mathematical modelling in continuum mechanics. The field of professional activity of the graduate includes the design and application of mathematical models and software systems for a wide range of problems in the aerospace, oil and gas, nuclear energy and other science-intensive industries, for example, the problem of air flow around aircraft bodies, modelling flows in complex pipeline systems with high pressure, calculation of the propagation of combustion front during forest fires and detonation waves during blasting.*

Programme manager: *Elena S. Shestakovskaia, Candidate of Science (Physics and Mathematics), Associate Professor, Head of the Department of Computational Mechanics*