Applied Mechanics

Peter the Great St. Petersburg Polytechnic University

Degree or qualification is awarded: **Master of Applied Mechanics**

Language of study: **Russian**
Mode of study: **full-time**
Duration: **2 years**
Availability of free education: **yes**
Price: **224 400 - 234 600 RUB per year**

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Models for predicting the behavior of an object under study or a physical process.

Specializations within this programme

Computational mechanics and computer engineering

The program is focused on the preparing masters who have world-class competencies in the area of applied mechanics, solid mechanics, mathematical and computer modeling in mechanics, computational mechanics, computer engineering, capable to do investigation of fundamental and applied problems in these areas, as well as solving complex scientific and technical problems in various sectors of high-tech industry through the application of innovative multidisciplinary upper-industrial computer technology. The uniqueness of the Master's program, determined by the availability of educational and scientific innovation laboratory "Computational Mechanics" (CompMechLab®), through which runs a large amount of research and scientific innovation work. This allows operatively enter in master program individual educational path, taking into account the needs of employers.

Physics of strength and plasticity of materials

The program is focused on the preparing masters who able to carry out experimental research, theoretical description and computer simulation of physical processes determining the mechanical behavior (strength and ductility) of various materials and solid structures, from traditional structural materials (steel, alloys, ceramics and composites) to advanced nanostructured systems (nanoscale, nanocrystalline and nanocomposite materials), at different stages of their preparation and use.

The mastering of program involves the study of physical laws of mechanical behavior of solid body, the role of structure in the formation of its strength properties and non-destructive testing methods of structure and properties of materials. The study of the physical foundations of strength and ductility of materials combined with in-depth development of computational methods of mechanics, the classical theory of plasticity and fracture mechanics, as well as the advanced training technology computer engineering.