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| Degree | Master in Material Science |
| Learning mode | Full-time |
| Specialization | Material Science and Technologies |
| Program duration | 2 years (120 ECTS), official start date September, 1 |
| Language of instruction | English |
| Entrance requirements | <ol style="list-style-type: none"> 1. 4 years Bachelor Degree Certificate. 2. Proof of the English language proficiency: certificate TOEFL (paper 500 and better; web 55 and better) or IELTS (5.5 and better), First Certificate in English (FCE) or entrance test result. 3. Sufficient result of Interdisciplinary exam. |
| Tuition fee (per year) | 227 490 RUB |

Introducing Your Degree

Masters in the field of material science are demanded by the global society in the twenty-first century. Researchers and engineers develop novel materials helping product innovation in all industries from aerospace, marine and automotive, to medicine, microelectronics and environmental friendly technologies.

Program Overview

The program is focused on the fundamental physical and technical training of graduates to be successfully employed in different fields of research and development of materials and engineering. The Master's educational program include core courses in physics, mathematics, material science, physical chemistry and surface physics for students to obtain special knowledge and skills according to Russian and international educational standards. Education deals with theoretical and practical study in the field of modern material science of organic polymers, non-organic metals and ceramics to be applied in different industries to develop novel engineering structures and technologies, methods for investigation and testing of materials.

Main Modules

- Computer Simulation of Materials and Technologies
- Modern Surface Hardening and Coating Technologies
- Condition Monitoring and Reliability Inspection of Materials and Parts
- Micro- and Nanosized Polymer Composite Materials

Learning Outcomes

Professional competency includes knowing of issues on the research and development of novel materials and structures, in particular:

- materials for structural and functional applications for different industries, including electronics and medicine, and technology of surface hardening and coating

- principles for design of novel materials – nanostructured, smart, gradient and composite materials with ceramic, metal and polymer matrix
- technologic facilities and devices for surface hardening and coating deposition
- manufacturing processes for advanced materials
- methods for investigation of properties and diagnostics of loaded materials and structures
- physical and chemical models of materials and manufacturing processes
- law and regulatory issues of application of new materials.

Career Opportunities

- researcher in the field of development of novel materials for different applications
- technologist for manufacturing of materials with specified properties
- specialist for diagnostics of loaded structures and machinery
- teaching in the field of material science and computer simulation of materials

Types of organizations: Research institutes and universities, laboratories in different engineering companies and plants.

Academic staff

- Panin Viktor, D.Sc., Professor, Academician of RAS, h-index 18, research and development of Physical mesomechanics of materials and nanomaterials
- Kulkov Sergey, h-index 9, Research and development of high-strength ceramic materials
- Panin Sergey, h-index 7, Research and development of wear resistant polymer composite materials
- Lebedev Sergey, h-index 6, Research and development of development of polymer composite materials for mechanical and electrical engineering