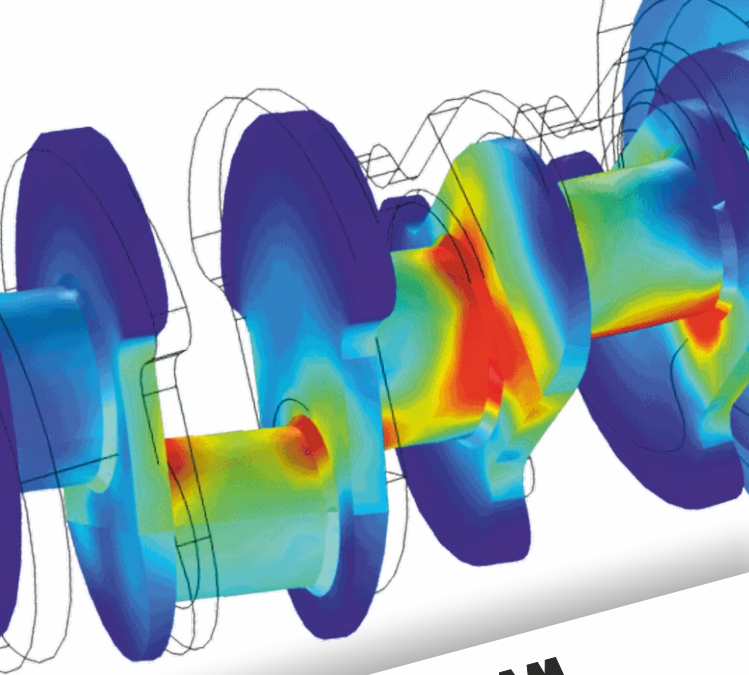




ADVANCED
METALLURGICAL
ENGINEERING



THE MASTER PROGRAM

"Advanced Metallurgical Engineering" is concerned with the development, production, and processing of ferrous, non-ferrous, and mineral materials. It is the basis for innovative products and new technological developments in the fields of industrial engineering, technology, and medicine. Research in this department focuses on materials design. It includes general research to ascertain the structure of and opportunities for optimising known materials, for example steel, aluminium, magnesium, glass, ceramic. Scientists in this division also deal with issues relating to surface technology, recycling, manufacturing, and processing using state-of-the-art production processes including quality assurance inspections.



PROGRAM DESCRIPTION

The program provides in-depth knowledge and understanding of metallurgical engineering. Its particular focus is on industrial practices and modern manufacturing processes. The program aims at enhancing the students' ability to design and manage projects and to lead and coordinate project teams.



This program focuses on all disciplines within Metallurgical Engineering and Materials Technology. At the beginning of their studies, students have to select their individual area of specialism:

- Process Technology of Metals
- Physical Metallurgy and Materials
- Materials Science of Irons and Steels.



PROGRAM GOAL

As a result of training the graduates of the program to acquire knowledge and skills of qualified specialists in the field of metallurgy and novel technologies. The main aim of the program is to awards students a Master degree, which is well recognized around the world.



DURATION OF STUDY
Two academic years (4 semesters).



LANGUAGE OF INSTRUCTION
English

BASIC COURSES

- Methodology and Scientific Research Methods
- Innovative Forms of Business
- Basics of Academic Communication
- Foreign Language in One's Professional Sphere
- Quality Management
- Presentation of One's Research Findings
- Metallographic Analysis

OPTIONAL COURSES

- Marketing for Scientists
- Theory of Inventive Problem Solving
- End-to-end Metallurgical Technologies
- Innovative Metallurgical Processes
- Smart Resource Distribution in Metallurgy
- Industrial Engineering
- Engineering of Mechanical Properties of Metals and Alloys
- Physical Modelling of Metallurgical Processes
- Advanced Computer Modelling

TRAINING BASE

- PJSC Magnitogorsk Iron and Steel Works
- OJSC MMK-METIZ
- Institute of Nanosteels



ACADEMIC STAFF



ALEXANDER M. PESIN

- Doctor of Technical Sciences
- Professor
- Frequent winner of research grants
- Founder of the international laboratory
- Regular participant of international conferences
- Author of 59 papers in English



MARINA A. POLYAKOVA

- Doctor of Technical Sciences
- Professor
- Regular visiting professor at the universities of the EU, India and China
- Regular participant of international projects on education in the EU countries
- Author of 47 papers in English



MARINA V. POTAPOVA

- PhD (Engineering)
- Regular participant of research projects
- Developer of mobility programs
- Teaches courses in English for NMSTU foreign students
- Working on the doctoral thesis



ALEXEY S. ISHIMOV

- PhD (Engineering)
- Leading research scientist of the Research Institute of Nanosteels
- Specialist in mechanical tests and physical simulation

OVER 10

visiting professors in materials
engineering annually

3 international research and educational
events with visiting professors from the EU,
China, India, the USA and Great Britain

4 active bilateral academic
mobility programs with
the universities of Italy,
the Czech Republic and France

Possibility to undergo
a practical training in

Danieli



ERASMUS +



The background of the page is a photograph of an industrial setting, possibly a factory or a construction site, with a strong orange tint. In the foreground, there is a metal grate or mesh. In the background, there are various industrial structures, including what looks like a conveyor belt or a large pipe, and some machinery. The overall atmosphere is industrial and modern.

ENTRANCE REQUIREMENTS

For both foreign students
and graduates of
the Russian higher education
institutions.



FORMAL ENTRANCE REQUIREMENTS

A candidate should have a recognized first degree (Bachelor of Science or Engineering) in Metallurgy, or Materials Engineering, or other closely related disciplines, awarded by an internationally recognised university-level institution.

You must additionally provide documentation that your English skills correspond to those required in the examination regulation. You can find the link to the examination regulation at the end of the page.

Candidates must be able to speak and write fluently in English. Although all courses are taught in English the students shall nevertheless learn Russian during their time in RF. Therefore, a basic Russian language course is offered before the start of the program and during the first year.

SPECIAL ENTRANCE REQUIREMENTS

Students should have an interest in continuing their careers in the field of metallurgy or material science. The program is appropriate for both engineers coming from industry and from a university. Candidates should be able to apply their knowledge of mathematics, science, and engineering to identify, formulate and solve engineering problems, as well as to set up and perform experiments in a laboratory setting.



APPLICATION PROCEDURE AND DEADLINES

Until June, 30 to fill out the application form and provide with the following documents by e-mail:

- 1 Application for admission to the master program.
- 2 Diploma (or some analogous document) on a program of the level of a bachelor degree or certificate (ordering) about passing now such program.
- 3 TOEFL certificate (score 50-70: intermediate or upper intermediate level) or other international certificates (BEC etc.) of similar level.
- 4 Curriculum Vitae of the applicant.

Until July, 10 the procedure of selection of applicants for testing passing is carried out.

**Federal State Budgetary Educational
Institution of Higher Education**

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