

Advanced diagnostic systems
(Master)

Higher Education Institution	National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)
Country	Russia
City	Moscow
Web-site	https://mephi.ru/
Name of the Programme	Advanced diagnostic systems
Degree awarded	Master
Qualification Level (first/ second cycle)	Second
Programme objectives; Profile	Preparation of masters with advanced knowledge in the field of mathematics simulation technologies for the development of cybernetic systems for medical diagnostics with application of methods of pattern recognition, the ability to successfully work in the sphere of activities related to research and development of high-tech information-measuring software and hardware systems for nuclear medicine, telemedicine, industry, research and medical institutions. Provide graduates with universal and subject-specific competencies that contribute to their social mobility and stability in the labor market.
Programme Duration	2year
Total number of ECTS Credits awarded	120
Curriculum analysis (% and credits):	
- engineering fundamentals and advanced engineering subjects (including final thesis)	61,7 (74 ECTS)
- mathematics / natural sciences fundamentals	21,7 (26 ECTS)
- humanities and socioeconomics studies	10,8 (13 ECTS)
- other	5,8 (7 ECTS)
Brief description of the programme	Design of intelligent medical decision support systems that combine different physical principles of diagnosis, using

expert systems and pattern recognition systems, remote diagnostic and training technologies .

Methods of research of regularities of manifestation of diseases in structure of tissues and cells of an organism for increase of accuracy of diagnostics of diseases.

Robotic systems of computer microscopy for laboratory research methods

Creation of knowledge bases, expert systems and intelligent diagnostic systems.

Development of technical means for telemedicine.