

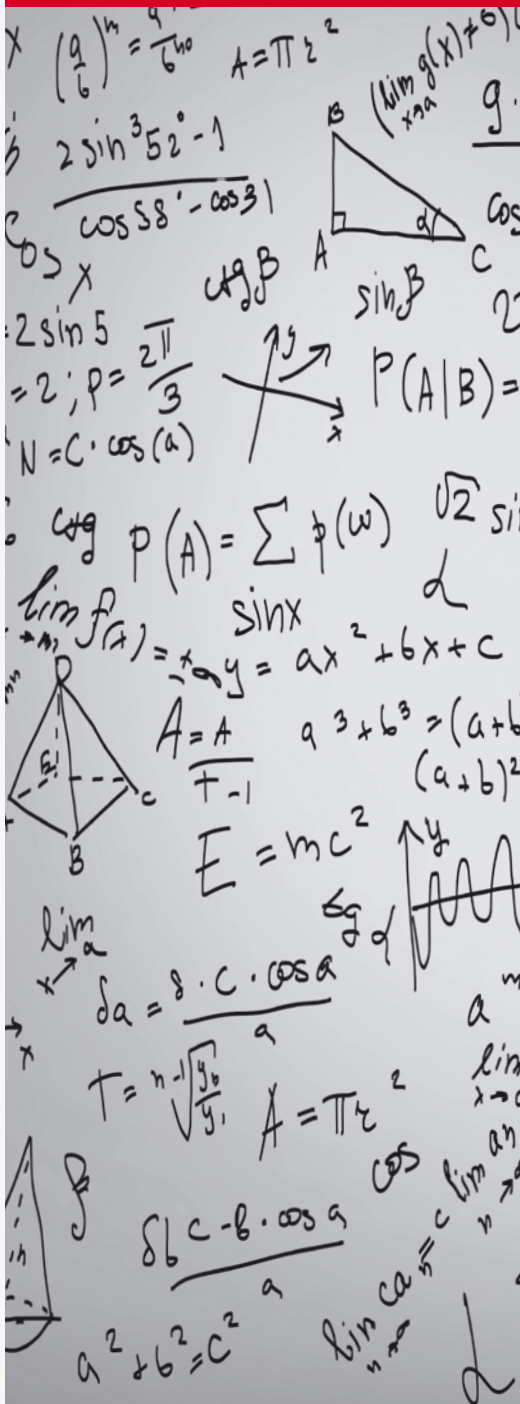
Master of Science Program

# Mathematical and Theoretical Physics

Students may specialize in

**Track A Mathematical Physics**

**Track B Theoretical Physics**



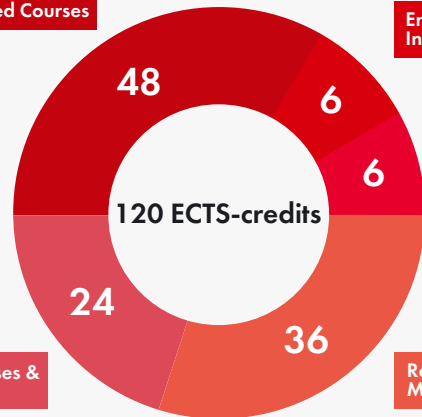
Compulsory & Recommended Courses

Entrepreneurship & Innovation

Research Immersion

Elective Courses & Projects

Research & MSc Thesis Projects



**Curriculum:**

**Compulsory courses**

	Track A	Track B
Research seminar "Modern Problems of Mathematical Physics"	A	
Research seminar "Modern Problems of Theoretical Physics"		B

**Recommended electives**

Research seminar "Strings and Cluster Varieties"	A	
Lie Groups and Lie Algebras, and their Representations	A	
Hamiltonian Mechanics	A	
Differential and Symplectic Geometry	A	
Geometric Representation Theory	A	
Dynamical Systems and Ergodic Theory	A	
Advanced Quantum Mechanics		B
Gauge Theory and Gravitation	A	
Quantum Integrable Systems	A	
Differential Topology	A	
Representations of Affine Kac-Moody Algebras	A	
Functional Methods in the Theory of Disordered Systems		B
Classical Integrable Systems	A	
Affine Lie Algebras and Conformal Field Theory	A	
Statistical Physics	A	

**In collaboration with Higher School of Economics (HSE)**

Applied Methods of Analysis	A	
Random Matrices, Random Processes and Integrable Systems	A	
Quantum Mechanics	A	
Quantum Field Theory	A	
Elective courses from HSE Course Catalog	A	

**In collaboration with Moscow Institute of Physics and Technology (MIPT)**

Theory of Phase Transitions		B
Introduction to the Theory of Disordered Systems		B
Introduction to the Quantum Field Theory		B
Asymptotic Methods in Complex Analysis		B
Quantum Mesoscopics. Quantum Hall effect		B
One-Dimensional Quantum Systems		B
Elective courses from MIPT Course Catalog		B

**Entrepreneurship & Innovation**

Innovation Workshop	A	B
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**Elective Courses**

See at the Skoltech Course Catalogue: [skoltech.ru/en/education/course-catalogue](http://skoltech.ru/en/education/course-catalogue)