

Data Science

PROGRAM STRUCTURE (Curriculum)

Total: 120 ECTS			
37 ECTS	Core and required courses	26 ECTS	Elective courses
27 ECTS	Internships and industrial placement	30 ECTS	Research and MSc Thesis project
First year	First semester		27 ECTS
	Foreign Language (English / Russian)		4
	Natural and artificial intelligence		5
	Data warehousing		5
	Management of Quality		3
	Project Management		3
	Linux for Data Science		3
	Research		4
	Second semester		33 ECTS
	Foreign Language (English / Russian)		4
	Mathematics in Data Science		4
	Machine learning in Data Science	Computer-Aided Design of Software Systems	4
	Data Science and Big data environment	Operating environment Innovative software systems	3
	Methods of research and modelling of information processes and technologies	Tensor method of complex systems network models	4
Internship		6	
Research		8	
Second year	Third semester		30 ECTS
	Applied data science in digital projects		6
	Artificial neural networks in Data Science	Object-oriented analysis and development. Development patterns using	5
	Discrete Mathematics	Web-services and SaaS-services design and develop	4
	Modern IT-systems in economics and industry and Digital transformation for metallurgy	Parallel programming technologies	3
	Big Data and complex socio-technical systems	Intelligent software in geological system	3
	Research		9
	Fourth semester		30 ECTS
	Industrial placement		21
	State final attestation (incl. MSc Thesis defense)		9