TENTATIVE LIST OF EXCHANGE COURSES

THE COURSES ARE DIVIDED INTO THREE MODULES AS BELOW:
MODULE 1: SOFT SKILLS
MODULE 2: ECONOMICS AND INNOVATIONS
MODULE 3: ICT & PROGRAMMING/TECHNOLOGY (comprises different tracks)

PLEASE BE INFORMED THAT COURSES OF DIFFERENT TRACKS/MODULES MAY OVERLAP WITH EACH OTHER. You are recommended to select most of the courses within one track and fewer courses from the rest of the tracks/modules.

The average number of required ECTS credits is 20-30 credits per one semester (depending on your home university's requirements).

The lists of courses may undergo minor changes at the beginning of each semester. Your final lists of courses will be confirmed at the beginning of your studies.

Please be informed that some courses have a capacity limit, and you may be redirected to other subjects.

MODULE 1: SOFT SKILLS

Course title	ECTS Credits
Intercultural Communication	3
Russian as a Foreign Language	3
International Research Management Essentials	3

MODULE 2: ECONOMICS AND INNOVATIONS

Course title	ECTS Credits
IP Security on New Markets (basic)	3
Modern Patent Analytics	3
Patent consulting (basic)	3
Technology and Business Consulting Based on Patent Information	3
Patent Informatics (Patent Landscapes)	3

Course title	ECTS Credits
TRACK:HPC (HIGH-PERFORMANCE COMPUTING) **(available only for Master's students of relevant majors and comprehensive CV is required)**	
Discrete Modeling	3
Data Visualization	3
Technologies and Infrastructure for Big Data	4
Architecture of Neural Networks for Deep Learning	3
Translation Research Methodology	3
TRACK: CT&BioInf (COMPUTER TECHNOLOGIES& BIOINFORMATICS) **(basic CT skills are required; for some courses a short interview with the track's coordinator is required)**	
Medical Genetics	6
Scientific Python *(advanced course with application to bioinformatics)*	3
TRACK: M&R (MECHATRONICSAND ROBOTICS) **(basic knowledge in mechanics, mathematics and physics is required)**	
Digital Control Systems	3
Control Systems Programming – Part 2	3
Optimization Methods and Optimal Control	3
Modern Control Theory – Part 2	3
Adaptive and Robust Control	6
Sensorless Control	6
Design of Mechatronic Systems	3
Computer-Aided Design	3
Machine Learning in Robotics	3
Sensorless Control	3
Digital Image Processing	3
TRACK: EM (ENVIRONMENTAL MANAGEMENT)	
Corporate Environmental Management	3
Environmental Management and Auditing	3
Organization of Cleaner Production	3
Life Cycle Assessment	3
TRACK: ISec (INFORMATION SECURITY) **(basic CT skills are required)**	
Information security laws and regulations	3
Information Security Risk Management	6
Cryptography and Data Security	3
Operating systems	3
Web Software Development	3

TRACK: BioCh (BIOCHEMISTRY) (basic knowledge in chemistry, biotechnology, chemical engineering is required)	
Nanobiotechnologies	3
Molecular Oncology	3
Preclinical Studies	3
Nanoengineering and Nanofabrication	3
Catalysts and Green Chemistry	6
TRACK: PH&MS (PHYSICS AND MATERIAL SCIENCE) (available for students majoring in Physics, Engineering or Material Science;a short interview with thetrack'scoordinator can be required for admission)	
Nanoplasmonics	6
Special Sections of Inorganic Chemistry	3
Introduction to Materials Science. Part 1	3
Many Body Quantum Theory	6
Quantum Optics	6
Microfluidics	6
Methods of Computer Simulation	6
Electrodynamics of Metamaterials	3