National Research University
HIGHER SCHOOL OF ECONOMICS

Master's program –
Big Data Systems

Program aims

The program is aimed at the professional training in Big Data Systems (BDS). The graduates will be able to identify and evaluate the possibility of using Big Data in the appropriate business context, to justify the benefits of this technology, to develop architecture of Big Data system and implement it into existing enterprise architecture.

Strong Points of the Program

- Big Data Systems Master's programs are represented only in a few universities in the world
- The program is focused on the effective using of BDS in business
- The students are expected to use IBM software products for data analysis and modeling
- The program is supervised by the international Scientific Council, which includes the representatives of universities in which there are research labs or educational programs on Big Data and the representatives of companies, providing Big Data products and technologies
- Teaching staff with an international reputation

Program content

- System Analysis&Organization Design
- Economic and Mathematic Modeling
- Enterprise Architecture Modeling
- Advanced Data Analysis&Big Data for Business Intelligence
- Big Data Systems Development and Implementation

- Data Visualization
- Predictive Modeling
- Natural Language Processing
- Cloud Computing
- Big Data Collection, Storage&Processing in Heterogeneous Distributed Computer Networks
- Knowledge Discovery in Data at Scale Technologies
- Applied Machine Learning
- Creating and Managing Enterprise Information Assets
- Advanced Data Management
- Big Data Based Marketing Analytics
- Big Data Based Risk Analytics
- Data Driven Process Control

Professions

- SEO (Search Engine Optimization) specialist
- CIO (Chief Information Officer)
- Software Engineering Manager
- Big Data Analyst
- Search Technology Specialist
- Big Data Programmer
- Principal Data Scientist

Master's program –
Big Data Systems

Competences acquired

- Mathematics and technical knowledge and skills in area of exploration, modeling, analyzing and using the latest Big Data tools and techniques
- The understanding of business
- The understanding of connection between business and IT
- The understanding how to enable enterprise to be managed more efficiently by using new Big Data technologies and value chains, produced by their implementation
- Management skills in area of Big Data systems implementation, Big Data services
- Research skills in area of analytics and optimization skills, focused on stochastic optimization, predictive modeling, forecasting, data mining, business analysis, marketing analytics

International Partners

- Münster University
- Vienna University of Business and Economics
- Eurecom
- IBM Research Laboratory Haifa, Israel

Admission Requirements

Entry requirements include a bachelor's or specialist's degree (minimum) in business informatics field. A good background in discrete mathematics, linear algebra, mathematical analysis, probability calculus, economics, software engineering, databases is needed. Selection process is based on the portfolio competition. The candidates should provide the following documents: application form, bachelor's (specialist's, master's) diploma, letter of motivation, list of the scientific papers and confirmation certificates (if it is), information about candidate's skills in IT field (if it is), English language certificates and any other documents which confirm candidate's achievements in IT field (if it is).

English Language Requirements

- IELTS: score of 6 or above
- TOEFL IBT (Internet Based): score of 80 or above
- TOEFL PBT (PaperBased): score of 500 or above
- CAE (Certificate of Advanced English): pass
- CPE (Certificate of Proficiency in English): pass
- BEC Vantage/Higher (Business English Certificate): pass

Program Academic Director: Svetlana V. Maltseva

Contact details

Address: 33 Kirpichnaya Str., Moscow, Russian Federation

Deputy Dean of International Relations:
Mikhail M. Komarov
Phone: +7 (495) 772 9590*55051
E-mail: *mkomarov@hse.ru*

Manager: Ekaterina B. German
Phone: + 7 (495) 772 9590*55213
E-mail: *egerman@hse.ru*
Web: *http://bi.hse.ru/en/bds*