### English Master's Degree programmes

Name of programme	Programme description
For students with Bachelor's Degree in Mathematics, Physics, Informatics	
Information Processes and Systems provides with knowledge and skills in processes of obtaining, transfer and processing information, communication systems and communication technologies, data networks, etc.	The Master's program provides you with expertise in processes of obtaining, transfer and processing information; communication systems and communication technologies; data networks; satellite navigation systems; computer methods of physical phenomena simulation; automation of physical experiment; practice of scientific work.  Core courses: Physical Basis of Remote Sensing Methods; Fundamentals of Astrophysics; Modeling of Impurity Migration Processes and Point Defects in Crystals; Satellite Radio Navigation Systems; Signal and Image Processing Techniques; Computer Methods in Electronic Spectroscopy; Fundamentals of Optoelectronics; Methods of Image Processing in Scanning Probe Microscopy, etc.  Career opportunities. The field of professional activity of graduates includes the research and study of the structure and properties of nature on different levels of its organization from elementary particles to the Universe. The objects of professional activity of students who have mastered the master's program covers physical systems of various scale and levels of organization, processes of their functioning, physical, engineering-physical, biophysical, chemical-physical, medical-physical, environmental technologies.  Highlights: the graduates from the Master's Degree program in Information Processes and Systems (IS) will acquire a broad knowledge and understanding of ICT and the role of IS in achieving strategic goals in an organization.
Applied Informatics in Design provides with knowledge and skills in advertising, design companies, IT sectors of educational and cultural institutions, etc	The Master's degree program is designed for those who would like to become professionals in advertising, design companies, IT sectors of educational and cultural institutions. Applied and information processes, information technologies and systems are the subjects of students professional activity.  Core Courses: Color Science and Composition; Basics of Professional Research; Graphic Design; Cross-Cultural Communication; Basics of Printing and Advertising Products Design; Web Technology Instruments; Methodology and Technology of Information Systems Designing; Mathematical and Instrumental Methods for Supported Decision-Making; Integrated Automation of Organization; Information Society. Issues of Applied Informatics.  Career opportunities. Graduates of the program are further employed in media industry (online mass media, broadcasting, printing, video, etc.); advertising and entertainment (television, cinema, computer and video games, etc.); scientific and medical visualization; in organizations and departments of object-oriented design and digital and printing products.  Highlights: you'll be able to independently learn new research methods, develop software, crate software and hardware information security systems, find out about the technologies for creating hypertext documents with HTML language, CSS basics and Javascript; basic models, principles and prototyping tools as well as principles of Web interface design and user interface evaluation methods.
Applied Informatics in Arts and Humanities provides with knowledge and skills in methodology and technology of information systems designing, information society, issues of applied informatics, etc.	The Master's degree program is designed for those who would like to use international information resources and knowledge management systems in the information support of decision-making processes and organizational development; integrate the components of the IC automation objects and IT based on functional and technological standards; apply decision making models in the process of operating information systems of enterprises and organizations to ensure the required quality, reliability and information security of its services.  Core courses: The History and Theory of Art; Basics of Professional Research; Art and Design; Cross-Cultural Communication; Sociocultural Record Management; Web Technology Instruments; Methodology and Technology of Information Systems Designing; Mathematical and Instrumental Methods for Supported Decision-Making; Information Society. Issues of Applied Informatics.  Career opportunities. Graduates of this program are employed in IT sectors of state and corporate organizations, which provide IT services; they

# Computer Vision and its Applications

provides with knowledge and skills in digital image processing algorithms, analysis of scenes and machine vision, visual images recognition, etc.

### Information Technologies i Closed Ecosystems

provides with knowledge and skills in intelligent systems, software development technologies; X-ray equipment for biotechnical life support systems, biospherics, etc.

## System Analysis of Data and Decision Making Models

provides with knowledge and skills in intelligent data processing, contemporary problems of system analysis and control, data analysis and decision making under uncertainty, etc. design electronic libraries and virtual museums for medical institutions, educational facilities and other organizations related to the cultural sector. **Highlights:** you'll be able to solve non-standard situations in terms of the cultural norms of a community, analyze the influence of media on public

opinion, and apply information services and resources in professional activity, methods and means of Information Society research.

The Master's degree program is definitely a solution for leading a very profitable business, it is designed for those who are ready to deal with how computers can be made to gain high-level understanding from digital images or videos. During the study you may learn how to solve many technical problems, implementing various applications of computer vision.

**Core courses:** Digital Image Processing Algorithms; Analysis of Scenes and Machine Vision; Visual Images Recognition; Methods of Machine Training; Methods of Compression and Transmission of Images; Processing of Area Photography Data.

Career opportunities. Graduates of this program are employed in many progressive companies that use computer vision research and product development. We prepare engineers, seeking to automate tasks that the human visual system can do.

**Highlights:** you'll be able to solve computer vision problems such as image stitching and photo-based 3D Modeling, use scientific, statistical and engineering approaches to formulate and constrain the potentially open-ended problems endemic in vision.

The Master's program is designed for those who are interested in computer machines, systems and networks, automated information processing and control systems, computer aided design (autocad) programs and information support systems for product lifecycle, computer equipment software and hardware and automated systems (programs, software tools and systems).

Core courses: Intelligent Systems; Optimization Methods; Computer Systems; Software Development Technologies; Philosophical Problems of Science and Technology; Photobiological Technologies in Closed Ecosystems; Information Technology Project Management; X-ray Equipment for Biotechnical Life Support Systems; Physical Ecology and Life Support Systems; Closed Ecosystems Mathematical and Computer Simulating; Biospherics; Key Technologies for Biotechnical Life Support Systems, etc.

Career opportunities. The field of professional activity of graduates includes theoretical and experimental research of scientific and technical problems and solving problems in the development of hardware and software computer computing systems and networks, automated (including distributed) information processing and control systems, as well as

computer-aided design and product information support.

**Highlights:** the master program enables a student not only to expand their theoretical knowledge in the field of information technologies, but also get practical skills. The program focuses on key subjects that are crucial to understanding and advancing new and emerging systems. You will learn to drive innovation and solve the most difficult computer engineering challenges with advanced knowledge of key topics including security and assurance, network systems, computer architecture, and advanced programming.

The Master's degree program designed for the development of students' personal qualities and the formation of general cultural and professional competencies for solving professional problems in the implementation of research, design, technological, scientific, educational, organizational and management activities.

Core courses: Intelligent Data Processing; Multi-criteria Optimization Methods; Contemporary Problems of System Analysis and Control; Multilingual Technologies for Synthesis of the Information Support for Complex Systems; System Analysis of Data; Stochastic Methods of Decision Making; Group Decision Making Methods; Data Analysis and Decision Making Under Uncertainty, etc.

Career opportunities. The area of professional activity of masters includes a set of principles, means and methods of human activity aimed at modeling, analysis, synthesis, production and operation of technical objects and devices for various purposes for designing and managing complex systems, resources, processes and technologies.

**Highlights:** the graduates will have the ability to independently learn new research methods, to change the scientific and research-production profile of their professional activities.

### For students with Bachelor's Degree in Economics, Management, Humanities

#### **International Business**

provides with knowledge and skills in cross-cultural management, world economy and international relationships, research methods in management, international marketing, etc.

The Master's program is designed to meet the needs of business and industry in the rapidly evolving global marketplace and to prepare students for international careers. The program is ideal for students who want to develop a global mindset and to understand different business management practices.

Core courses: Modem Issues of Management; Cross-cultural Management; World Economy and International Relationships; Research Methods in Management; Theory of Organization and Organizational Behavior; Modern Strategic Analysis; Economic Diplomacy; International Corporate Finance; Project Activities; International Business

Strategies; International Customer Relationship Management; Doing Business in the EU;

- Doing Business in Asia; Doing Business in Russia; International Marketing, etc.

**Career opportunities.** The Master's degree in international business can open the doors for a series of career opportunities. The preparation offered by this unique program makes graduates in high demand and frontrunners in the development of the new global economy.

**Highlights:** the preparation of highly skilled managers of international level, able to effectively apply the analytical, research and leadership skills, innovative techniques and unique knowledge of the design and implementation of functional business management strategies.

### **Consulting in Advertising and Public Relations**

provides with knowledge and skills in social and cultural communication technologies, information society and problems of applied computer science, intercultural communication, etc. The Master's program is created for those who want to continue developing their communication skills, ability to work in a team, gain profound knowledge in basics of consulting planning of different types, and for those who are able to simulate communication processes, have creative thinking techniques and are capable to use it.

Core courses: Methodology and Technology of Designing Information Systems; Mathematical and Instrumental Devices for Decision-Making Support; Mathematical Modeling; Integrated Automation in Organization; Social and Cultural Communication Technologies; Professional Course of Foreign Language; Information Society and Problems of Applied Computer Science; Intercultural Communication; Research Workshop.

Career opportunities. Professionals with the Master's degree find employment in government and communications agencies, business, mass media and public organizations. Contemporary knowledge in consulting helps students to take part in international networking projects and work in international organizations.

**Highlights:** you'll be able to make scientific researches and manage production activities, develop creative skills and ways of activating it, using your individual capacities.

## Technology Management and Business-engineering

provides with knowledge and skills in organizational-economic modeling, logistic management, modern technologies of business-engineering, technological marketing, etc.

The Master's program is designed for graduates of science, technology, engineering or math undergraduate programs who seek to enhance their knowledge, marketability and career potential.

Core courses: Operations Research; Sociology of Management; Engineering Economics;

Organization and Management of the Life Cycle of High Technology Products; Organizational-economic Modeling; Management of Innovative Processes and Innovative Activity of the Enterprise; Modern Strategies of Technological Development of Knowledge-intensive Industries; Technology Entrepreneurship and Innovation Business Development Management; Logistic Management; Modern Technologies of Business-engineering; Technological Marketing; Management of Innovative Projects and Business Processes, etc.

Career opportunities. The field of professional activity of graduates: life cycle management of science-intensive products; marketing of high technology products and high technologies; entrepreneurship in the field of science-intensive and high-tech products; organization and management of engineering companies in the field of science-intensive and high-tech products; development and implementation of technologies for life cycle management high-tech products; organization and management of the investment activity of a knowledge-based enterprise.

**Highlights:** the graduates will obtain the skills in the technology management of high-tech production and the creation of conditions for the effective functioning of production systems.