

## **Brief Description of the Program**

### **Career**

Computer technology is applicable in all areas where there is a large flow of information. This is not only IT, but also medicine, aviation, banking, advertising and telecommunications. By analyzing the data, companies can achieve better results. In particular, computer technology is already bringing huge profits to banks and stock market players. A specialist in applied mathematics and computer science is an IT specialist who is able to carry out mathematical modeling of the processes under study using electronic computers and supercomputers, work with systems of digital image processing, computer graphics, multimedia and computer-aided design.

### **Educational process**

Students study a complete course of mathematical modeling, non-linear programming and methods of identification of mathematical models and Web-programming. Interactive practical classes and laboratory work help students understand the nuances of their future profession. Master classes conducted by leading IT specialists, participation in competitions of innovative projects and developments, communication with potential employers contribute to the formation of professional competencies of future IT specialists.

### **Disciplines**

- ✓ Mathematical Modeling Methods
- ✓ Mathematical Modeling in Natural Sciences and Social Sphere
- ✓ Theory of Computational Experiment
- ✓ Mathematical Modeling of Technical Systems
- ✓ C and Java Programming
- ✓ Simulation of Artificial Neural Networks
- ✓ Computer Environments for Mathematical Modeling

### **Practical training**

Every year, students undergo practical training in the departments and laboratories of the University. Various enterprises of the city and region, having information structure and computer networks, are also the venues of practical training. During their practical training, students learn to conduct research and obtain new scientific and applied results; develop and analyze conceptual and theoretical models of scientific problems to be solved; develop and analyze conceptual and theoretical models of design and production and technological activities; they also gain team management skills in their professional field.

### **Career**

There are not enough specialists in the field of information technologies, therefore they are very much in demand. Graduates of the program can build a career in different areas: artificial intelligence and system programming, software and computer games development, data analysis, and Internet programming. After completing the educational program, graduates will be able to model and develop mathematical software for computers of the new generation, to develop software and information support for computer networks, automated systems of computer complexes, services, operating systems and databases.