

## **12.04.01 Instrumentation**

### **Intelligent Information and Measurement Systems**

#### **Program objective**

Preparation of masters with universal and subject-specialized competencies that contribute to their social mobility and sustainability in the labor market, able to work successfully in modern manufacturing, at the nuclear industry, in research organizations and design institutions wide profile.

#### **Curriculum features**

- general cultural and fundamental physical, mathematical and engineering training
- multichannel data acquisition and processing systems
- intelligent systems programming
- sensors of physical quantities
- measurement of parameters of electromagnetic processes
- channels of information transfer
- analog integrated devices of measuring systems
- electronics of digital measuring systems
- methods and means of digital signal processing
- information-measuring systems databases
- local area networks and their software

**Areas of professional activity:** research, design, production, technological, organizational and management activities at enterprises related to the development of intelligent data collection and processing systems, pattern recognition and classification for the international physical experiment, industry, aviation and space, medicine and biometrics, as well as with the design of digital electronic systems based on modern microprocessors, programmable arrays, systems on a crystal, sensors.

#### **Future employment opportunities:**

- Russian research centers
- enterprises and research institutes of ROSATOM State Atomic Energy Corporation and ROSCOSMOS State Corporation for Space Activities
- federal executive bodies (Federal Air Transport Agency, Ministry of Emergency Situations, Ministry of Internal Affairs)
- institutes of the Russian Academy of Sciences and Russian Academy of Medical Sciences.