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Information Measuring Technology

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History of IIT (SMD)

In 1979, the specialty «Semiconductor and microelectronic devices» was opened at the Belarusian Polytechnic Institute, and the department «Semiconductor micro - and Optoelectronics» was created for training in this specialty. Later, in 1982, a research laboratory of semiconductor technology was opened at this department. In 1990, the specialty «Semiconductor and microelectronic devices» was transferred to BSUIR. In order to preserve the scientific, personnel and material-technical progress, the specialty «Information and measurement technology» was opened at the BNTU, followed by the opening of the department of the same name. In the following years, the Department of Information and Measurement Technology acquired more and more new specialties, such as «Micro and nanotechnology», «Information and Measurement Technology», «Technical security», etc.

At the moment, the Department of IIT of the BNTU is one of the leading instrument-making departments of the Republic of Belarus, which trains specialists in the field of information and measurement technology and its applications in various areas of the national economy. The department trains specialists with higher education in a form integrated with secondary specialized education.

The department has the closest contacts with enterprises and organizations interested in graduates of this

specialty. Among such enterprises are PA «integral», JSC plant «SpetsAvtomatika» and others. On the basis of these enterprises, it is possible to conduct practical training, which allows you to deepen the knowledge of students in the field of study, as well as give a real idea of the future profession.

In the modern view, information and measurement technology is the most versatile and popular engineering specialty of the 21st century. The continuous increase in the role of information technology has led to the widespread automation of not only measurements, but also the automation of a large number of production processes, an increase in the number of sensor technology. At the moment, modern technologies have confidently settled in our lives, which in turn has led to a sharp increase in the need for specialists in the field of information and measurement technology. At the moment, training in this specialty is possible in two universities of the country: «The Belarusian National Technical University» and «Yanka Kupala State University of Grodno» [1].

Scope of application

The scope of application of specialists in this specialty is:

1. Design of measuring instruments and information and measurement systems.
2. Development of software for information and measurement systems.
3. Installation, adjustment and maintenance of technical means of information and measuring equipment.
4. Development of normative and technical documentation for measuring instruments.
5. Metrological support of measuring instruments and information and measurement systems.
6. Development of technological documentation, participation in the creation of standards and regulations.

7. Perform operational control over the operation of devices and systems of information and measuring equipment.

Graduates of the specialty «Information and measurement technology» acquire the professional qualification of a specialist «Electronics engineer» and work in various fields related to the receipt, processing, storage and protection of measurement information. For example:

1. In the industry, as engineers-developers of measuring information systems and devices;

2. In modern enterprises, as engineers and managers for the development and implementation of innovative projects;

3. In small enterprises for the development of small microprocessor-based measuring devices and systems that are in high demand among consumers and are widely used in industry.

The specialist «electronics engineer» assumes the presence of professional competencies in the following areas:

1. Knowledge and skills in the field of measurement of electric, magnetic and non-electric quantities with the use of devices, systems and complexes of information and measuring equipment;

2. Design of devices, systems and complexes of information and measuring equipment;

3. Commissioning, testing, repair and maintenance of devices, systems and complexes of information and measuring equipment;

4. Development and implementation of new methods and means of measuring electric, magnetic and non-electric quantities, etc.[1].

Demand in the modern labor market

Due to the increase in the number of complex equipment in our lives, the role of information and

measurement technology specialists in the labor market is also increasing.

Today, these specialists will be in demand in almost all areas of modern life, from small private enterprises to large state-owned enterprises, including international-class enterprises.

Job prospects

Graduates of the department work in Belarus and abroad in high-tech sectors of the economy: electricity and heat power, oil and gas industry, aviation and space industries, mechanical engineering, research centers, instrument making, medicine, food industry.

In addition, graduates participate in the development of data collection and processing systems for complex technical objects (hydroelectric power plants, thermal power plants, shipping locks) in design organizations.

References:

1. Должностная инструкция инженера-электроника [Electronic resource]. – Mode of access: <https://hr-portal.info/job-description/dolzhnostnaya-instruktsiya-inzhenera-elektronika>. – Date of access: 10.03.2021.