

1. Name of discipline: “*Principles of instruments and systems design*”

2. Direction: 12.03.01 “*Instrument making*”

3. Profile: -//-

4. Degree: *Bachelor*

5. Teacher: Simankin Fedor Arkadevich, Ph.D., Associate Professor, tel. 83822701777-1517,  
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6. Goals of the discipline:

- ability to use the main provisions and methods of social, humanitarian and economic sciences in solving social and professional problems, the ability to analyze socially significant processes and phenomena;
- the ability to conduct research, process and present experimental data;
- study of physical principles of measuring transformations, on which methods and means of measuring physical quantities are built.

The graduate students ready to search and obtain new information necessary to solve engineering problems in the field of knowledge integration in relation to working field; to have participation in the innovative activity of the enterprise. They acquire self-study skills and constant professional self-improvement.

7. Results of training (knowledge, skills, experience, competence)

**R1** To develop functional and structure-related diagram of the devices and systems with the identification of physical principles of devices

**R2** Participate in technology to enhance the production of devices for various purposes and principle of operation

**R3** To use computer software packages for simulation of electronic circuits devices and systems and modeling of virtual instruments

**R3** To carry out the technical control of production, including the implementation of quality management systems

8. The program of this discipline is compiled in accordance with the requirements of *Federal Education Standards*, criteria of the *Association for Engineering Education of Russia* coordinated with the requirements of the National standards *EURACE* and *FEANI*