

**Division:** *Institute of Engineering and Technology*

**Academic programme:** *15.03.06 Mechatronics and Robotics. Mechatronics*

**Mode of study:** *full-time*

**Programme cost:** *181 000 RUB*

**Programme length:** *4 years*

**Programme level:** *Bachelor's degree*

**Language of instruction:** *English*

**Programme description:**

*The direction trains specialists in the field of modern design, research, production and operation of mechatronic and robotic systems. In the program of the direction, disciplines of theoretical and practical orientation are optimally balanced; it includes a complex of academic disciplines, such as real-time operating systems, technical vision systems, electric transport.*

**Objects of professional activity**

- *Engineer-designer of mobile robots;*
- *Embedded system programmer;*
- *Programmer;*
- *Robotics engineer;*
- *Technical Vision Specialist.*

**Main programme-specific classes:**

*Research:*

- *compilation of mathematical models of mechatronic and robotic systems, their subsystems and individual elements and modules, that include information, electromechanical, hydraulic, electro-hydraulic, electronic devices and computer equipment.*
- *development of software that is necessary for information processing in mechatronic and robotic control systems and their design*
- *development of experimental models of control, information and actuating modules of mechatronic and robotic systems.*
- *experimental research using contemporary information technology*

- *analysis of scientific and technical information, Russian and foreign experience in the development and research of mechatronics and robotic systems,*
- *conducting theoretical and experimental research in the field of development of new samples and improvement of existing mechatronics and robotic systems;*
- *preparation of analytical reviews, scientific and technical reports on the research results, publication on research and development results.*

*Design and development:*

- *compilation of a feasibility study for projects to create mechatronic and robotic systems, their subsystems and individual modules,*
- *to carry out calculations and design of part devices and subsystems of mechatronic and robotic systems using standard actuating and control devices, automation equipment, measuring and computing equipment in accordance with technical task,*
- *to develop design and project documentation for mechanical, electrical and electronic components of mechatronic and robotic systems in accordance with existing standards and specifications,*
- *to carry out preliminary tests of the components of the prototype mechatronic or robotic systems according to the specified programs and methods and keep the appropriate test logs.*

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