Robotics

The basic mission of the BSc program in Mechatronics aims to form engineers with specific skills through advanced studies in areas related to Mechatronics and Robotics: mechanics, information technology, electronics.

The main objectives of the BSc program is to develop specific skills in robotics engineering. The students attend coursers, which present information on:
• Languages, environment and technology of programming: programming and use of computers, programming II, programming III;
• Fundamentals of Mathematics: Mathematical analysis, Algebra, Special mathematics, Computer assisted mathematics;
• Fundamentals of mechanical engineering: Mechanical engineering, Strength of materials, Fluid mechanics, Thermodynamics, Mechanisms;
• Fundamentals of electrical engineering: Electrical, Electronic Fundamentals, Theory of automated systems;
• Mechatronic system components: constructive elements, sensors and sensorial systems, hydro-pneumatic actuators and acquisition systems, interfaces and virtual instrumentation, digital integrated circuits
• Elements of robotic systems synthesis: Robot control systems, Microcontrollers in mechanical engineering, PLCs, Manufacturing machines in automated processes, Artificial intelligence, Robotics bases;
• Applications of robotic systems: Advanced robotics, Applications multirobot, Flexible manufacturing systems, Prostheses and Automated monitoring and service robots.

An Engineer specialized in Robotics is a person whose job is to design or operate complex robotic systems, which integrate mechanical, electrical and programming elements.