Degree Programme: Mechatronics
ECTS code: MEH

Qualification awarded: BEng

Education forms: Full-time, part-time

Term of education:
Full-time: 4 years – for BEng;
Part-time: 4 years – for BEng,

Final examination: development and public defence of a diploma project for BEng for both fulltime and part-time education

Admission requirements: admission exams according to the university regulations

Access to further studies: The graduated bachelors have opportunity to apply for master degree and the graduated masters have opportunity to apply for doctoral study in Bulgaria or abroad.

Programme importance: Mechatronics is a new scientific discipline which has been successfully taught in more than 90 world universities. The term “mechatronics” appears in Japan in the beginning of the seventies when the industrial robots started to be implemented to practice. Although that this discipline is unknown in some countries, it becomes an integral part of engineering education. Mechatronics is a new discipline which is not a mixture of other disciplines but uses in an innovative manner the achievements in mechanics, electronics, and computational field to deliver a new technical product, the so-called “mechatronic product”.

General characteristics of the education: The engineers graduated in “Mechatronics” are able to work in the area of design, manufacturing, maintenance of mechatronical devices in areas related to:

- Robot technique: design, programming and manufacturing of industrial robots, mobile and service robots, tele operators, micro robots, robot systems, robot manipulating devices, new materials and new principles for building and operation of micro mobile medical robots; modelling and simulation of robot systems; maintenance of robot systems.
- Precise micro-mechanical technique: design, manufacturing, maintenance and diagnostic of office and security technique; optic and laser technique; micromechanics; medical and biomedical appliances, measurement devices; optic devices. The two directions have a common theoretical foundation, including general engineering and general special subjects which satisfies the general requirements of mechanical engineers, and specific requirements for mechanical engineers in mechatronics, which combines the knowledge and skills in engineering, electronics and computer technology.

Advanced training is conducted in the following sub-areas:

- Mechatronic systems in discrete production engineering: The training encompasses special engineering subjects, e. g. Assembly Automation; Implementation of Mechatronic Systems in Discrete Production Engineering; Motion Control in Mechatronic Systems; Design and Implementation of Automated Mechatronic Complexes in Discrete Production Engineering.
- Optical, micromechanical and measuring devices and equipment: The training encompasses special engineering subjects, e. g. Measuring Equipment; Optical and Laser Devices; Micromechanical Engineering; Accuracy and Reliability of Mechatronic Systems.

Educational and professional goals: The graduated in Mechatronics are able:

- To design components, devices and machines and to prepare its technical documentation;
- To organize manufacturing; to manage the production facilities; to organise the maintenance of the equipment;
- To control the quality of documentation, products and production;
- To serve as a manager of a team; - To assist the invest processes of Bulgarian and foreign companies.

Employment of the graduates: Mechanical engineers in “Mechatronics” are prepared to work in: -all sectors of the economy; - Public Administration and Local Government.