

Degree Programme: Mechanical Engineering and Instrumentation
ECTS code: ME

Qualification awarded: BEng

Education forms: Full-time, part-time

Term of education: 4 years – for BEng

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

Admission requirements: According to the university regulations.

Access to further studies: Successfully graduated BEng qualification awarded students are able to continue education in MEng qualification awarded by specialty in universities according to the university regulations.

Programme importance: In recent years, there has been a sharp increase in the demand for specialists with degrees in Mechanical Engineering and Instrumentation. This is explained by the revival of mechanical engineering production in Bulgaria and the increased interest of foreign mechanical engineering companies in the Bulgarian market.

General characteristics of the education: The training in the specialty "Mechanical Engineering and Instrumentation" allows students to receive in-depth and integral general theoretical and practical training in the fields of: mechanical engineering, instrument engineering, electrical engineering, electronics. The general theoretical training includes the disciplines: "Mathematics", "Physics", "Chemistry", "Materials Science", "Mechanics", "Electrical Engineering and Electronics", "Resistance of Materials", "Engineering Graphics", "Machine Elements", "Fluid Mechanics, Hydro and Pneumatic Drive", "Theory of Mechanisms and Machines", "Thermodynamics and Heat Transfer".

The specialty provides sufficient general specialized training and solid basic knowledge necessary for the implementation of future engineering and scientific activities and ensuring appropriate professional flexibility. It provides knowledge about the methodological approach to the design and construction of complex systems with a variety of purposes. The specialized training is related to: design, programming and production of mechanical engineering products and devices. The specialized training includes the disciplines: "Mechanical Engineering Technology", "Automation and Robotization of Production", "Lifting and Transport Equipment", "Metrology and Measuring Equipment", "Finnish Mechanical Engineering", "Construction Non-Metallic Composites", "Design Methodology", "Engineering Logistics", "Regulating and Control Equipment", "Quality Control and Management", "Economy", "3D Prototypes (Design and Manufacturing)", "Automated Production Systems", "Safety and Environmental Protection Technology". The specialized training also includes elective disciplines of three modules.

Educational and professional goals: A graduate of the specialty "Mechanical Engineering and Instrumentation" must have in-depth knowledge in the field of mechanics, general mechanical engineering and instrument engineering. To use modern CAD/CAM/CAE systems. To have knowledge of the application of computer equipment and peripherals, technological processes and complex systems. All this should help him successfully: design and construct elements, assemblies, devices and coordinating devices and develop the relevant technical documentation, to organize production and manage the activities of production units, to organize the use, maintenance and repair of the relevant facilities; to control the quality of documentation, products and processes.

Knowledge and skills related to general theoretical training and training in specialized disciplines are required. The knowledge obtained should enable them to engage in: design, programming and production of mechanical engineering products and devices.

Employment of the graduates: The mechanical engineer in the specialty "Mechanical Engineering and Instrumentation" is prepared to work in all sectors and levels of the economy (production, service, transport and others). Finds fulfillment in the design and construction of elements, assemblies, devices and coordinating devices and develops the relevant technical documentation, as well as in organizing the use, maintenance and repair of the relevant objects. Graduates of the specialty with a "bachelor" degree have the right to apply for a master's degree in our country or abroad in the appropriate scientific fields.