



Learning outcomes of the Specialist Graduate Professional Study Programme in Mechanical Engineering

- Ability to select elements and equipment in accordance with user request specifications and technical norms.
- Ability to manage elaboration of design concept and write documentation for implementation of devices, plants and systems.
- Ability to organize equipment design and testing, plant design and implementation according to structural projects and field testing.
- Ability to propose new procedures for modernisation of devices, plants and systems.
- Ability to manage business processes related to the specificity of the production process

Additional learning outcomes for specialisation in Mechatronics and Robotics

- Ability to propose the structure of a standard controller or controller in the state space and calculate the parameters of the controller according to the given requirements for the automatic control system in a continuous or digital domain
- Ability to solve problems in the field of production automation using knowledge in the field of flexible production systems and industrial and mobile robotics
- Ability to solve problems in the field of plant or process automation, including proposing sensors and actuators
- Ability to program embedded computer systems using a higher programming language
- Ability to analyze problems in the field of computer vision that include the identification, adaptation and application of appropriate computer vision algorithms for a specific problem

Additional learning outcomes for specialisation in Ecotechnologies

- Ability to combine additive prototyping processes and reversible engineering to improve product development
- Ability to propose the appropriate type of renewable energy technology for a specific application
- Ability to predict appropriate technical solutions for biological and thermal treatment of waste





- Ability to select engineering approaches used in technological, construction and mechanical design of biological, chemical and physical wastewater treatment processes
- Ability to propose waste gas treatment measures with an understanding of the problems and ways to solve air pollution
- Ability to propose measures to prevent environmental degradation, ie to reduce harmful effects on the environment
- Ability to combine the basic principles of different energy extraction systems from biomass and a suitable type of biomass depending on energy efficiency and economic viability
- Ability to formulate requirements that can be placed on the system of automatic control of plants and processes in environmental protection

Additional learning outcomes for specialisation in Industrial Management

- Ability to propose an alternative (optimal) solution to real business and technical problems
- Ability to propose the type and design of sustainable systems that conserve energy and natural resources, ensure safety and health for workers and products
- Ability to combine additive prototyping processes and reversible engineering to improve product development
- Ability to assess the operational efficiency of the process through the elimination of specific losses
- Ability to recommend procedures for developing and launching a new product on the market
- Ability to manage resources and services in a way that contributes to the achievement of strategic goals of the organization
- Ability to propose strategies that will meet the emerging processes and functions and harmonize the internal dynamics of development with external technological influences
- Ability to design elements of a business plan and appropriate strategy based on identified mission, vision and goals
- Ability to analyze user requirements on an integrated production support information system

