

Study branch Industrial engineering

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Faculty	Faculty of Mechanical Engineering
Study programme	Engineering
Type of study	Bachelor
Language of instruction	English
Code of the branch	S03
Title of the branch	Industrial engineering
Regular period of the study	3 years
Cost	50,000 CZK per semester
Coordinating department	Department of Mechanical Technology
Coordinator	prof. Ing. Radek Čada, CSc.
Key words	marketing, organization management, industrial engineering, production quality, business administration

About study programme

Are you a natural leader? Do you like to organize events around you? So join us. You will understand the basics of engineering technology, learn to design production systems and organize pre-production and production processes. In addition, we will prepare you for the work of an operations manager who is able to make independent and responsible decisions. Thanks to the study you will also gain knowledge regarding the assessment of production quality, product certification, demonstration of conformity and accounting. You will master the fundamentals of both general and business economics. You can be used in engineering and other industries in pre-production, development or research. You will not be lost as a production system designer, technologist, project manager or inspection and quality expert. In the financial world, you will succeed as a specialist in assessing the level of technology projects.

Hard skills

- Knowledge of material and technological formability of materials
- Industrial engineering
- Preparation of production
- Marketing
- Demonstration of product conformity
- Knowledge of basic technologies of plastics processing
- Production organization and management
- Assessment of formability of materials
- Knowledge of the influence of forming on the properties and structure of a material
- Knowledge of unconventional criteria for evaluating the formability of sheets
- Design of production units
- Industrial logistics
- Business administration
- Optimization of extract drawing processes
- Knowledge of direct methods of sheet metal testing
- Management of production and pre-production processes
- Knowledge of basic metallurgical factors influencing the formability of sheet metal
- Design of technological processes of production

- Knowledge of industrial management methodology
- Design of technological workplaces
- Evaluation of production and pre-production processes
- Knowledge of mechanical engineering technologies
- Designing production
- Knowledge of the basics of business economics
- Quality management
- Production quality management
- Perform technical supervision at workplaces
- Designing pneumatic systems
- Knowledge of the basics of marketing activities
- Quality control
- Knowledge of management methods and techniques
- Assessing the level of technological projects
- Organization management
- Product certification
- Knowledge of unconventional methods of engineering forming
- Managerial knowledge
- Management methods

Graduate's employment

Graduates of this specialization will find employment in engineering and engineering departments of other industries in production preparation, development and research, as well as technologists, designers of production systems, project managers, operational technicians or specialists for quality control and quality management. In the business and financial sphere as specialists assessing the level of technology projects.

Study aims

Students of this specialization acquire the necessary knowledge of the basics of engineering technology, knowledge necessary for designing technological workplaces, production units, organization and management of production and pre-production processes and their evaluation, basic knowledge of organization and production management, on knowledge of production quality and attestation of conformity, product certification, and accounting. They can be used in engineering and engineering departments of other industries in production preparation, development and research, as well as technologists, designers of production systems, project managers, operation technicians or specialists for quality control and quality management. In the business and financial sphere as specialists assessing the level of technology projects.

Graduate's knowledge

Graduates of this specialization (dřive: branch of study) have broad expertise in the basics of engineering technology, knowledge necessary for designing technological workplaces, production units, organizing and managing production and pre-production processes and their evaluation. They will also acquire knowledge of the methodology of industrial management, basics of marketing activities, quality management systems of industrial companies and basics of general and business economics. They will also acquire knowledge of basic legal, safety and hygiene regulations necessary for designing and managing engineering companies, knowledge of methods and techniques of management.

Graduate's skills

Graduates of this specialization will be able to:

- ensure and organize technological preparation of production,
- design technological workplaces (design of machines and fixtures, material flow, workplaces continuity and ensure other technical conditions),

- to read technical drawings and to design the most efficient methods and procedures for manufacturing, assembly, assembly, and surface treatment,
- organize, manage and evaluate production and pre-production processes,
- to verify new production processes,
- establish quality control and technical testing arrangements and cooperate on production quality management,
- carry out technical supervision at workplaces,
- check compliance with technological procedures,
- apply tools of economic and financial management of the company,
- conduct marketing activities,
- apply managerial decision-making methods to find optimal solutions to problems,
- evaluate, improve and design business processes in industrial sectors (metallurgy, mechanical engineering, automotive),
- apply the basic legal, safety and hygiene rules necessary for the design and management of engineering undertakings,
- use industrial quality management systems,
- practically use the fundamentals of both general and business economics,
- address practical problems in the areas concerned,
- find, organize and interpret information for solving practical problems
- to use some basic research procedures of the field to the extent necessary to solve specific problems in the given areas.

Graduate's general competence

Graduates of this specialization are able to:

- to make independent and responsible decisions within the assigned tasks, projects,
- defend their work and their views on problem-solving,
- to coordinate the team's activities and take responsibility for their results,
- summarize clearly the views of other team members,
- on the basis of practical experience, independently acquire further expertise and skills,
- to complete theoretical knowledge of the field by independent study.

Study curriculum

- form Full-time (en)