VSB TECHNICAL UNIVERSITY OF OSTRAVA | FACULTY OF MECHANICAL ENGINEERING

Industrial Engineering

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Faculty	Faculty of Mechanical Engineering
Type of study	Follow-up Master
Language of instruction	English
Code of the programme	N0715A270009
Regular period of the study	2 years
Cost	50,000 CZK per semester
Coordinating department	Department of Mechanical Technology
Coordinator	prof. Ing. Radek Čada, CSc.
Keywords	management methods, quality control, industrial logistic, production design, production technologies

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.

Graduate's employment

Graduates of this study program 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 study program 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 study program 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 study program 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 the 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 study program 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.

Hard skills

- Managerial knowledge
- Design of technological processes of production
- Knowledge of unconventional methods of engineering forming
- Knowledge of the influence of forming on the properties and structure of a material
- Product certification
- Knowledge of direct methods of sheet metal testing
- Knowledge of industrial management methodology
- Knowledge of the basics of marketing activities
- Marketing
- Designing production

- Designing production systems
- Design of technological workplaces
- Knowledge of mechanical engineering technologies
- Knowledge of basic technologies of plastics processing
- Knowledge of basic metallurgical factors influencing the formability of sheet metal
- Preparation of production
- Production quality management
- Management methods
- Organization management
- Quality control
- Assessing the level of technological projects
- Business administration
- Production organization and management
- Knowledge of the basics of business economics
- Perform technical supervision at workplaces
- Knowledge of material and technological formability of materials
- Optimization of extract drawing processes
- Management of production and pre-production processes
- Design of production units
- Industrial logistics
- Knowledge of management methods and techniques
- Knowledge of unconventional criteria for evaluating the formability of sheets
- Demonstration of product conformity
- Quality management
- Industrial engineering
- Assessment of formability of materials
- Evaluation of production and pre-production processes

Study curriculum

- form Full-time (en)