VSB TECHNICAL UNIVERSITY OF OSTRAVA | FACULTY OF MINING AND GEOLOGY

Mineral Economics

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Faculty	Faculty of Mining and Geology
Type of study	Follow-up Master
Language of instruction	English
Code of the programme	N0724A290014
Title of the programme	Mineral Economics
Regular period of the study	2 years
Coordinating department	Department of Economics and Control Systems
Coordinator	doc. Ing. Michal Vaněk, Ph.D.
Key words	economics and management, control and information systems, mineral deposits, commodity trading, mining industry

About study programme

Satisfying human needs is inextricably linked to the mineral wealth of our planet. Ensuring raw materials in the necessary quantitative and qualitative parameters requires considerable effort on the part of man, especially if mineral raw materials are obtained under increasingly complex conditions. The process of obtaining mineral raw materials requires specialists who have a complex of knowledge and skills that enable solving professional and managerial problems in all its breadth and complexity. The economics of raw materials, as it is a multidisciplinary field of knowledge integrating deposit geology, mining, processing, economics and management, has the necessary prerequisites not only to study the subject matter, but also to prepare the necessary experts.

Professions

- Project manager
- Scientific, research and development worker at universities
- Business manager
- Project manager
- Process specialist
- Specialist in science, research and development
- Regional manager
- Investment advisor
- Advisor in economics and business management
- Manager
- Manager in mining and geology
- Business economist

Hard skills

- Knowledge of economic analyses
- Knowledge of process improvement methods
- Knowledge in the field of waste management
- IT skills/knowledge: MS Office, (Easy archive advantage)
- Orientation in business economics
- Knowledge of raw materials and their use

- Knowledge of proposals for methods of smoothing out mining activities (remediation, reclamation)
- Knowledge of mining technology and processing of minerals
- Knowledge of mining law
- Knowledge in the field of production technologies
- Knowledge of organization and management of production activities (mine, quarry)
- Cost reduction methods
- Project management
- Knowledge of management
- Financial mathematics

Graduate's employment

Graduates can find their professional application mainly in the management functions of enterprises belonging to the mineral-raw materials complex. Graduates can also find employment in state and economic administration bodies from local to central bodies, research organizations and the educational system. Specifically, the following types of positions are involved: industrial engineer, head of mining and processing operations, surface mining production preparation technician, surface mining investment implementation technician, director of a small organization, project manager, process consultant, business process designer, team leader, manager, asset manager, product specialist.

Study aims

The aim of the study is to prepare experts for the positions of specialists and managers of middle and top management levels not only in companies that deal with the search and exploration of deposits, mining, processing and trading of mineral raw materials, but also in public administration. In order to achieve the study objective, the Economics of Raw Materials is a combined study program. The study program is divided into two areas, namely area 29 - Extraction and processing of mineral resources (80%) and 33 - Earth sciences (20%).

Graduate's knowledge

• The principles and techniques of searching and exploring mineral deposits.
• Classification and characteristics of ore and non-ore deposits.
• Principles of evaluating mineral deposits.
• Principles of calculating reserves of mineral resources.
• Application of raw materials in individual industries.
• Technology and organization of mining and treatment of mineral raw materials.
• Classification and characteristics of the processes of acquisition, extraction and use of mineral raw materials.
• Principles of valuation of deposits of mineral resources.
• Ways of leveling mining activity and reclamation.
• Principles of trading with mineral commodities.
• Principles of mineral commodity forecasting.
• Principles of modern industrial technologies.
• Principles of managing a mining company in the long term.
• Principles of project management in the conditions of mining enterprises.
• Principles of risk management and crisis management.
• Environmental management systems.
• Principles of circular economy.

Graduate's skills

• Understanding of basic geological and surveying documentation.
• Risk assessment of the mining company and individual projects.

• Formulation of the project proposal and its elaboration into a project plan.
• Assess the project proposal from a technical and economic point of view.
• Apply forecasting methods on commodity markets.
• Apply international methods to determine the size of reserves at a given deposit.
• Determine the price of the commodity.
• Comprehensive analysis of the internal and external environment of the mining company.
• Apply environmental management systems in the conditions of a mining enterprise.
• Use advanced applications in MS Excel to solve technical and economic tasks.
• Apply modern techniques and approaches in managerial practice
• Conducting a discussion and defending one's opinions and positions.
• Creation of presentations on a professional topic
• Apply augmented reality in the presentation

Graduate's general competence

The graduate is able to identify a problem and choose the procedure for solving it. He can present and defend his opinions and chosen solution procedures. The graduate is capable of management work. He can study foreign language professional texts, especially in English, he can communicate in English. The graduate is ready for further education in the field.

Study curriculum

- form Full-time (en)